Chapter 3

Student Academic Performance in Interdistrict Magnet Elementary and Middle Schools

Introduction

Connecticut's student population is more diverse now than at any previous time in the state's history and birthrate trends indicate that the diversity of the student population will increase in the future. The state is facing a major challenge in narrowing the academic performance gap between urban students in the state's high-poverty districts and students from the state's more affluent districts. The following state level testing data for the 2001-02 school year illustrates the disparity in performance. In ERG A districts, where schools enroll predominately white and low poverty students, 84 percent of the fourth grade students scored at or above the state goal on the Connecticut Mastery Test (CMT) on each of the mathematics, reading, and, writing, sections compared with 29, 22, and 35 percent, respectively, for students in ERG I districts, where the majority of students are racial or ethnic minorities and the poverty rates are high. In contrast, the percentage of students at the intervention level in ERG A was one percent in mathematics, three percent in reading, and one percent in writing, while the percentage at the intervention level for each subtest for ERG I students was 24, 47, and 15 percent, respectively.

This chapter examines the academic performance of interdistrict magnet elementary and middle school students. The following questions are addressed:

1. How does the CMT performance of elementary and middle magnet school students compare with that of their counterparts in other public schools across

the state?

2. Is there evidence that magnet schools are contributing to reducing in the gap in academic performance for students who attend them?
3. What are the perceptions of parents, teachers, and students with respect to the quality of academic programs their magnet schools offer?

This chapter is arranged to examine student participation and academic performance on the CMT in interdistrict magnet elementary and middle schools first. Then, the perceptions of the magnet school parents, teachers, and students about the academic program quality are presented to supplement the test data.

Elementary and Middle Magnet School Student Performance on the CMT

How does the performance of elementary and middle magnet school students on the CMT compare with that of their counterparts in other public schools across the state? This section examines the academic performance of interdistrict magnet school students enrolled in elementary and middle schools, based on the state mandated CMT which is administered in grades four, six, and eight. Connecticut has administered the CMT to students in grade four since 1985 and in grades six and eight since 1986 in the areas of mathematics, reading, and writing. The test is now in its third generation, with Third Generation CMT testing commencing in October 2000. Because of changes in content, reporting, and standards, along with an increase in the numbers of special education and bilingual education students included in testing in the third generation CMT, direct comparisons of results between it and those from the second generation are not recommended. Comparisons in CMT performance will be made between the 2000-01

and 2001-02 school years, the first two years the Third Generation was administered. As a reference, however, Appendix G contains interdistrict magnet school CMT data for the 1998-99 and 1999-2000 school years, the last two years the Second Generation CMT was administered.

This section includes the following information about elementary and middle interdistrict magnet school student academic performance:

- magnet school student participation rates in grades four, six, and eight for the standard grade level CMT in 2001,
- percentages of students scoring at or above the state goal and index scores for the Third Generation CMT for each elementary and middle magnet school,
- aggregate CMT scores of all magnet school students for mathematics, reading, and writing, by grade level,
- parent, teacher, and student perceptions of elementary and middle magnet school academic standards and program quality, and
- parents' reasons for enrolling their children in interdistrict magnet schools.

Participation Rates for Students Tested Using the Standard CMT

The 'standard' CMT is the test specified for the grade in which students are enrolled. Some students do not take the standard version of the CMT. Districts may exempt English Language Learners from taking the CMT, while special education students are required to take the most appropriate assessment from among the standard CMT,

standard CMT with accommodations, out-of-level CMT, or the CMT Skills checklist. The 'participation rate' for a school is the percentage of students in a given grade taking the standard CMT for that grade. Figure 3.1 compares the 2001-02 CMT participation rates in grades four, six, and eight of interdistrict magnet school students compared with students across the state, and students in ERGs A and I.

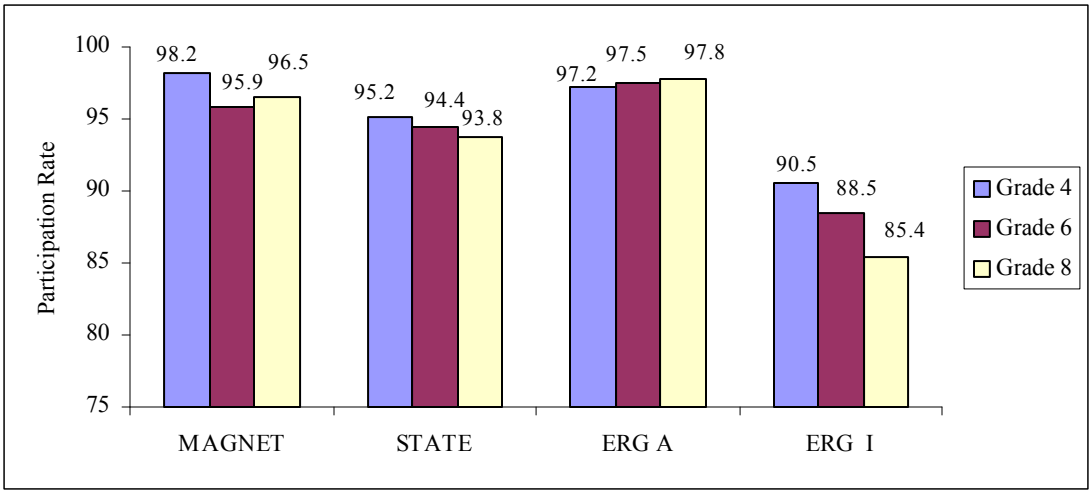

Figure 3.1: Comparison of Standard CMT Participation Rates for 2001-02

In 2001-02, approximately 94 percent of Connecticut public school students took the standard grade-level CMT in grades four, six, and eight. Across all three grades the participation rate for interdistrict magnet school students taking the standard CMT exceeded the statewide average. In grade four, the magnet school student participation rate of 98.2 percent even surpassed the 97.2 percent for ERG A, the state's most affluent public school districts. Interdistrict magnet school participation rates at each grade level were well above those for ERG I districts, from which they draw the majority of their student population. Higher levels of participation suggest that magnet schools are more inclusive in administering the CMT. As a result, larger proportions of interdistrict

magnet school students, such as those in special education and bilingual programs, are being assessed using the standard grade-level CMT.

Third Generation CMT Scores

This section lists two measures of individual school level CMT performance for the 2000-01 and 2001-02 school years, the percentage of students who scored at or above the state goal and the index score for the three disciplinary areas (mathematics, reading, and writing) for each of grades four, six, and eight. The two measures are described below:

Percentage At or Above Goal (Third Generation) – The number of fourth (sixth, or eighth) grade students in the school who scored at or above the state goal in reading (mathematics or writing) divided by the total number of students in the district tested on the standard grade level grade CMT. The goal in reading, for example, is based on combined performance on the DRP and a multiple choice reading comprehension test.

Index Score (Third Generation) – A number from 0 to 100 based on the percentage of students who meet the state goal plus a partial weighting of the percentages of students who fell in the three score levels below the goal. The index is not a percentage or percentile rank. An index score of 100 would be achieved if all students scored at or above the state goal; an index score of 0 would be obtained if all students scored in the lowest of the four score ranges (intervention).

Table 3.1 contains the percentage of students meeting the state goal and index score for grades four, six, and eight in the mathematics, reading, and writing for each interdistrict magnet school enrolling students in those grades, the state as a whole, and for ERG A and ERG I districts, for the 2000-01 and 2001-02 CMT administrations.

Because the elementary and middle interdistrict magnet schools vary considerably in the size of the classes tested, grade level organization, and the number of years students are enrolled in the school prior to testing, comparisons between schools are not meaningful. For example, in 2001 the Betsy Ross Arts Middle Magnet School sixth

Table 3.1: Interdistrict Magnet School Third Generation CMT Scores for 2000 and 2001: Percent of Students At or Above the State Goal and Index Scores

		Grade 4					
School Name	Yr	Math % At/ Above Goal	Math Index	DRP % At/ Above Goal	Reading Index	Writing % At/ Above Goal	Writing Index
MALONEY	2001	57	71.9	49	62.7	63	72.1
	2000	57	72.9	47	60.2	65	82.4
MULTICULTURAL	2001	31	53.2	47	56.0	50	69.9
	2000	35	58.7	42	55.4	27	55.9
ROTELLA	2001	34	63.4	39	57.4	56	78.7
	2000	45	74.2	44	65.4	65	86.5
E HRTFD/GLAS	2001	70	87.9	60	72.9	56	79.1
	2000	47	68.2	52	64.3	48	65.9
MONTESSORI	2001	29	57.1	64	73.8	46	66.7
	2000	13	37.5	13	50.0	14	71.4
BENJ. JEPSEN	2001	28	46.7	33	47.9	38	59.2
	2000	40	66.7	29	40.0	29	52.4
SIX - SIX	2001	54	78.4	57	69.4	38	78.7
	2000	46	71.4	44	59.8	50	78.4
WINTERGREEN	2001	57	73.3	52	66.2	59	79.7
	2000	42	63.7	43	55.4	39	61.2
STATE	2001	61	77.8	58	69.8	61	78.9
	2000	60	78.0	57	69.2	57	76.4
ERG A	2001	84	93.0	84	91.3	84	92.9
	2000	83	92.5	84	90.7	80	90.7
ERG I	2001	29	54.4	23	37.7	35	60.9
	2000	29	55.3	22	37.8	35	59.8
		Grade 6					
School Name	Yr	Math % At/ Above Goal	Math Index	DRP % At/ Above Goal	Reading Index	Writing % At/ Above Goal	Writing Index
E HRTFD/GLAS	2001	39	72.2	56	70.4	39	74.1
	2000	50	68.3	60	71.7	65	81.7
MONTESSORI	2001	33	38.9	50	66.7	83	94.4
	2000						
BENJ. JEPSEN	2001	43	65.5	43	47.6	57	72.6
	2000	26	47.6	29	47.1	31	57.1
SIX - SIX	2001	42	76.3	37	53.5	29	58.8
	2000	52	78.2	62	71.3	57	79.8
WINTERGREEN	2001	60	77.6	70	77.1	71	83.1
	2000	64	78.3	73	82.4	77	89.5
BETSY ROSS	2001	30	59.3	32	47.3	27	53.7
	2000	21	48.9	25	41.5	28	59.5
METRO LEARN	2001	44	68.0	56	68.0	52	72.1
	2000	47	71.2	58	69.9	68	83.9
STATE	2001	61	78.3	64	73.3	60	77.9
	2000	58	75.4	62	73.0	61	79.3
ERG A	2001	85	93.3	87	92.2	83	91.8
	2000	82	92.2	88	92.9	85	93.6
ERG I	2001	30	55.6	29	42.3	31	57.8
	2000	26	50.6	28	42.1	32	60.2

Table 3.1 (cont.)

Grade 8							
School Name	Yr	Math % At/ Above Goal	Math Index	DRP % At/ Above Goal	Reading Index	Writing % At/ Above Goal	Writing Index
BENJ. JEPSEN	2001	41	64.7	55	65.7	65	76.5
	2000	40	66.7	53	64.4	40	73.3
SIX - SIX	2001	43	73.8	43	71.4	57	81.0
	2000						
WINTERGREEN	2001	52	75.9	62	76.7	64	80.9
	2000	45	62.1	61	71.7	56	76.3
BETSY ROSS	2001	33	61.4	39	55.0	42	65.8
	2000	16	50.4	34	52.2	17	48.0
METRO LEARN	2001	48	74.4	63	78.5	43	69.4
	2000	36	65.6	55	69.5	49	71.0
STATE	2001	55	73.6	66	75.9	59	76.0
	2000	55	73.6	66	76.1	60	76.9
ERG A	2001	85	93.0	89	93.6	83	91.8
	2000	84	92.6	90	93.5	87	93.4
ERG I	2001	20	44.6	32	46.1	32	57.0
	2000	18	42.2	31	45.1	32	55.5

grade class tested 132 students while the Montessori school tested the six students in its first sixth grade class that year. The Betsy Ross students had been enrolled in the school for at most one year, since the school enrolls students in grades five through eight. On the other hand, Montessori enrolls students from pre-kindergarten through six, so students could have benefited from up to seven years in the school's academic program. In addition, average scores for schools with large numbers of students enrolled in a grade are likely to be more stable over time than are scores for schools with small enrollments because a single extreme student score has a greater effect on the average when it is part of a small group than when it is part of a large group. School level percentages at goal and index scores for the interdistrict magnet schools listed in the table are considerably more variable over time than the state, ERG A, and ERG I measures.

Given these caveats, the data in the table provide some insights into trends in student performance in interdistrict magnet schools, which will be explored further in this chapter

when the school-level data are aggregated by grade across elementary and middle magnet school groups.

Eight interdistrict magnet schools have two years of Third Generation CMT results for grade four. In comparing 2001 results with those from the previous year, two thirds showed positive changes in performance, with the most consistent positive changes in reading and the least consistent in mathematics.

While all fourth grade interdistrict magnet school students attend schools organized as elementary schools, students in grade six may attend elementary or middle schools. Five of the seven schools enrolling grade six are elementary schools and begin with pre-kindergarten or kindergarten. Most of those sixth grade students have benefited from more than two years of their school's academic program. The other two schools, Betsy Ross Arts Middle Magnet School and Metropolitan Learning Center, are organized as middle schools and first enroll students in grades five and six, respectively. As a result, CMT results for grade six middle school students reflect the academic preparation students acquired while in their previous school, and from at most one year in the middle magnet school. When comparing grade six 2001 results to those for 2000 for the two middle schools, only about 30 percent show an increase in skill level between the two cohorts, while 70 percent show a decrease. This indicates that, based on CMT performance standards, the 2001 cohort of middle magnet school sixth grade students is likely to be less academically prepared than the 2000 middle magnet cohort was, and also less academically prepared than their grade-six elementary school counterparts

Five schools enroll students in grade eight. Unlike sixth grade magnet school students who may have only entered the school in the fall when the CMT is administered,

most eighth grade students in the middle magnet schools would have been enrolled in the school for least two years, while eighth grade students in elementary magnet schools could have been enrolled in the school for up to ten years. For the four schools for which there are two years of grade eight CMT results, 88% of the 2001 results revealed an increase in the level of student performance from the previous year.

Comparisons of Interdistrict Magnet School CMT Performance by Subtest

To examine the collective performance of interdistrict magnet schools in improving academic achievement, the 'percent at or above goal' data from Table 3.1 were aggregated into 'weighted average percent at or above goal' for 2000 and 2001 for the three subtests, by grade, based on the number of students tested in each school. The 'percent at or above goal' and 'index score' results are highly correlated and, as a result, trends for the index scores are consistent with trends for the 'percent at or above goal.' The 'percent at or above goal' was selected over the index score for presentation and discussion in the following sections because differences between 'percent at or above goal' scores can be interpreted in a more meaningful manner than differences between index scores. Fourth grade scores account for the total weighted average 'percent at or above goal' for all eight interdistrict magnet schools enrolling students in grade four in each of the two school years.

Two sets of weighted average scores are provided for grades six and eight. Based on grade level organization of the school, elementary magnet weighted averages (MAGNET(E)) are calculated for only grade six and eight students in schools that enroll students from pre-kindergarten or kindergarten through grades six or eight. It is likely

that most sixth grade students in this group benefited from more than one year of instruction in their school.

Middle magnet weighted averages (MAGNET(M)) are calculated for sixth and eighth grade students in schools enrolling only middle grades. Sixth grade students classified as 'middle' are those enrolled in schools that begin with grade five or six, so that students would have benefited from at most one year of instruction in the school. Middle sixth grade scores serve as a baseline for comparisons to eighth grade scores.

Eighth grade student scores are disaggregated in the same manner as sixth grade scores, whereby elementary eighth grade students are those who attend PK-8 or K-8 schools and middle eighth grade students are those who attend schools spanning grades 5-8 or 6-9.

The following three sections compare the performance of interdistrict magnet school students across the three grades with students statewide and in ERGs A and I on the CMT mathematics, reading, and writing subtests.

Mathematics Performance

Figures 3.2a –c display the percentages of students scoring at or above the state goal in mathematics in grades four, six, and eight, respectively, for 2000 and 2001. In grade four, 46 percent of the magnet school students met the state goal in 2001, two percentage points higher than in 2000. The percentage of fourth grade magnet school students

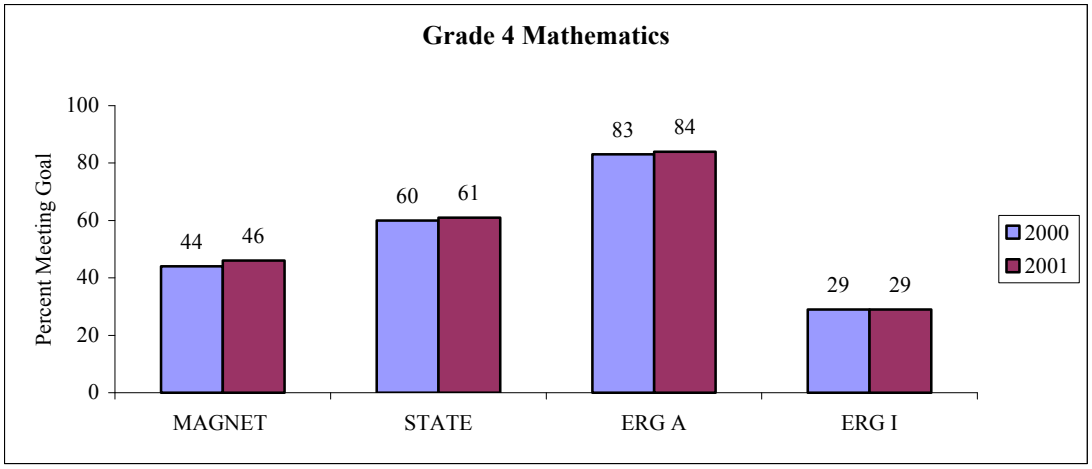

Figure 3.2a: Comparison of the Percentages of 4th Grade Students Scoring At or Above the State Goal on the CMT Mathematics Test

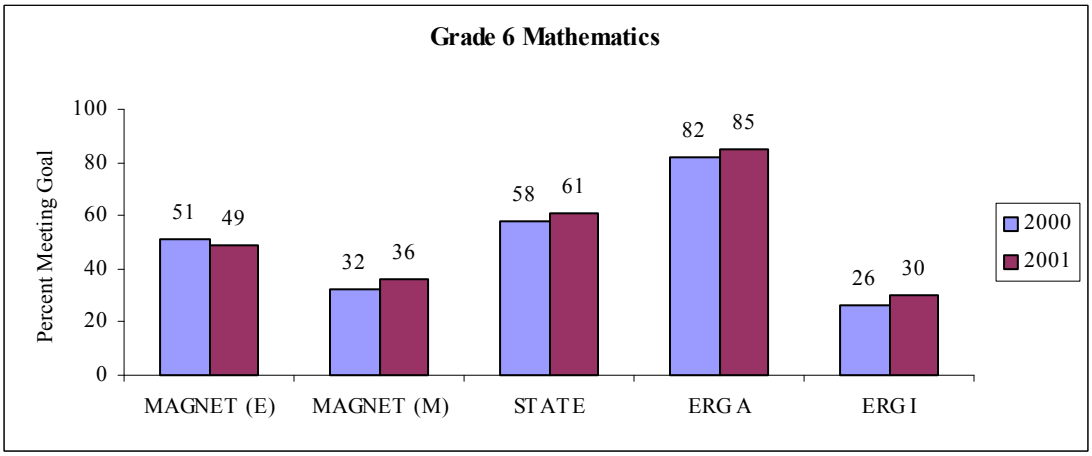

Figure 3.2b: Comparison of the Percentages of 6th Grade Students Scoring At or Above the State Goal on the CMT Mathematics Test

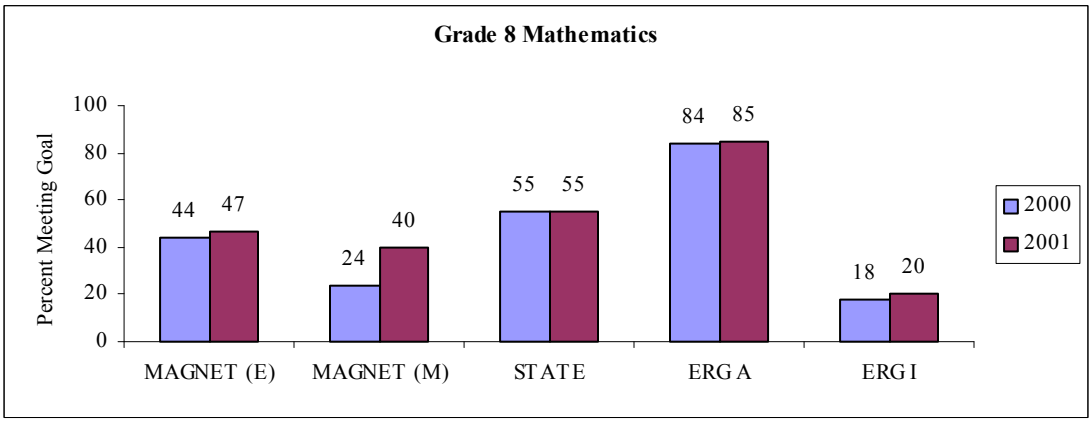

Figure 3.2c: Comparison of the Percentages of 8th Grade Students Scoring At or Above the State Goal on the CMT Mathematics Test

meeting goal in 2001 was 17 percentage points higher than ERG I, 15 percentage points lower than the state's fourth grade average, and 38 percentage points lower than ERG A.

For grades six and eight, the magnet school students are disaggregated into two groups, elementary and middle, based on the organization of the schools students attend. In 2001, 49 percent of the elementary magnet sixth grade students met the state goal, compared with 36 percent of the middle magnet school students. The elementary sixth grade average is 12 percentage points below the statewide average, while the middle sixth grade average is 25 points below the state average. Both still are considerably below the ERG A, but above the ERG I, percentages. The differential between elementary and middle sixth grade percentages at goal suggests that by the time students enroll in sixth grade in middle magnet schools they have mastered lower levels of mathematical skills and concepts than their counterparts in elementary magnet schools.

For grade eight magnet school students in 2001, 47 percent of the elementary students met the state standard in mathematics, compared with 40 percent of the middle school students. These percentages are 8 and 16 points, respectively, below the statewide average of 55 percent, below ERG A (85%), and well above ERG I (20%).

The data suggests a modestly positive trend over the grades for magnet school student performance in mathematics in comparison to statewide averages. In 2001, for magnet schools containing grades four, six, and eight, the difference in the percentage of magnet school students meeting state goal and the statewide average improved from a 15 percentage point gap for grade four to an eight percentage point gap in grade eight. For magnet schools containing grades six and eight, the difference in the percentage of

magnet school students meeting state goal and the statewide average improved from a 25 percentage point gap for grade six to 16 percentage point gap in grade eight.

Reading Performance

Figures 3.3a-c compare the interdistrict magnet school average percent at or above the state goal on the reading component of the CMT with averages for the state, ERG A, and ERG I for grades four, six, and eight, in 2000 and 2001. Forty-eight percent of interdistrict magnet school fourth grade students read at or above the state goal in 2001, compared with 43 percent the previous year. These averages are 10 and 14 percentage points lower than the state average for the two years, considerably below the ERG A average of 84 percent, and well above the ERG I average of about 22 to 23 percent.

For grade 6 in 2000 and 2001, 59 and 55 percent of the sixth grade students in elementary interdistrict magnet schools were reading at or above the state goal, three and nine percentage points below the state average of 62 and 64, respectively. For sixth grade students in middle grade interdistrict magnet schools, 39 and 43 percent of the students scored at or above the state goal in reading, more than 20 percentage points below the statewide average for each year. The differences between the percentages of elementary and middle grade six students meeting the state goal in reading for each year suggest that a smaller proportion of middle magnet sixth grade students, who had been enrolled in their school for at most one year, have acquired grade-level reading competencies and, as a result, are more academically at risk than elementary magnet sixth grade students, who are likely to have attended their magnet schools for several years. In 2000 and 2001, 59 and 57 percent of the elementary eighth grade students, and 42 and 50 percent of the middle eighth grade interdistrict magnet school students scored at or

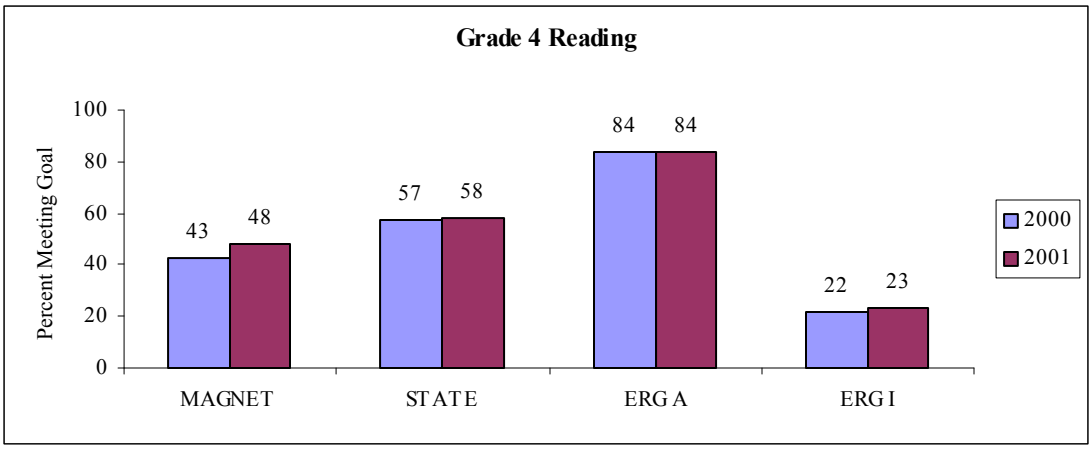

Figure 3.3a: Comparison of the Percentages of 4th Grade Students Scoring At or Above the State Goal on the CMT Reading Test

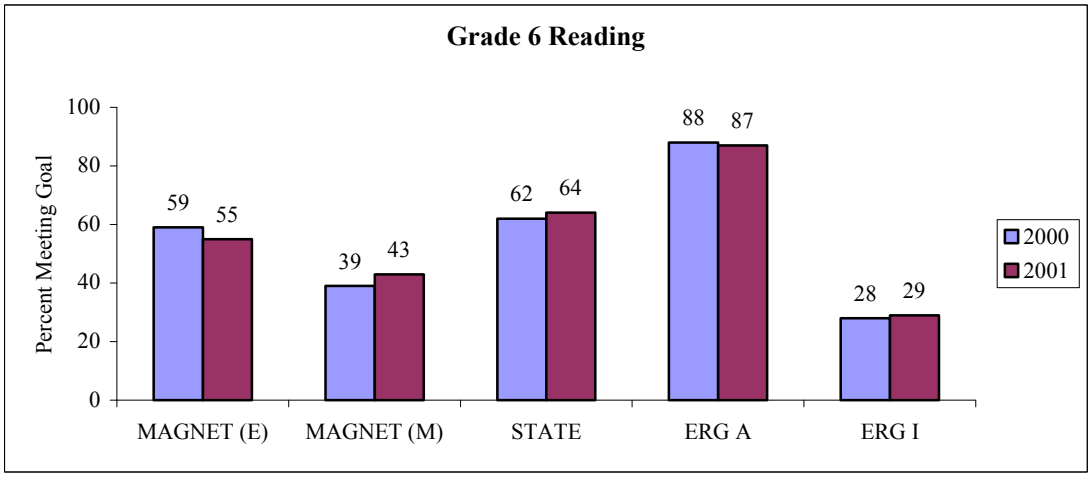

Figure 3.3b: Comparison of the Percentages of 6th Grade Students Scoring At or Above the State Goal on the CMT Reading Test

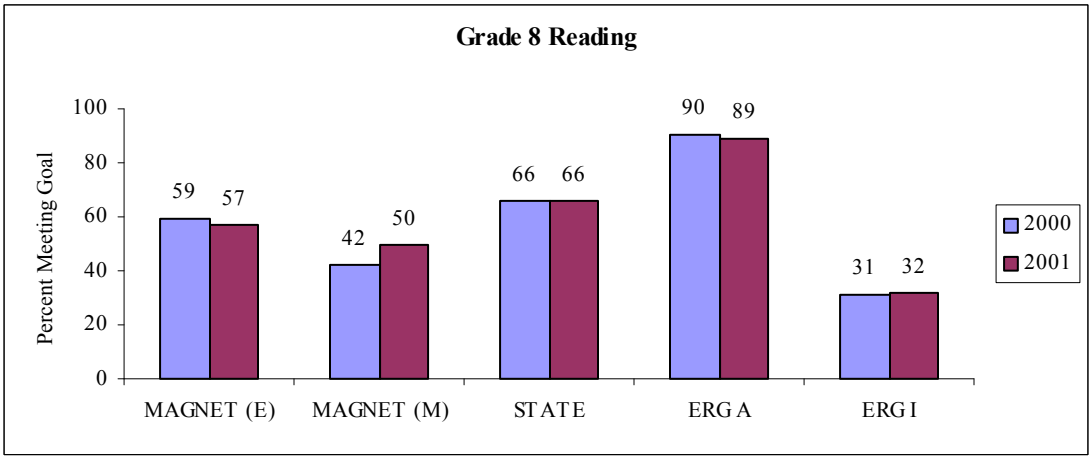

Figure 3.3c: Comparison of the Percentages of 8th Grade Students Scoring At or Above the State Goal on the CMT Reading Test

above the state goal in reading. For elementary eighth grade magnet school students, the proportion is seven and nine percentage points lower than the state average. For eighth grade middle magnet school students the differences are 24 and 16 percentage points. Eighth grade results reveal a smaller gap between middle school magnet reading performance and statewide performance than found for grade six.

Writing Performance

Figures 3.4a-c compare the percentages of interdistrict magnet school students scoring at or above the state goal in writing in grades four, six, and eight. In 2000 and 2001, 46 and 53 percent, respectively, of fourth grade interdistrict magnet school students scored at or above the state goal in writing, or 11 and eight percentage points below the state averages of 57 and 61 percent. In 2001, the percentage was 31 percentage points below the ERG A and 18 percentage points above the ERG I averages.

In 2000, 61 percent of the elementary and 45 percent of the middle magnet school sixth grade students scored at or above the state goal in writing. For 2001, 55 percent of the elementary and 38 percent of the middle grade interdistrict magnet school sixth grade students scored at or above the state goal in writing, compared with 60 percent of the sixth grade students statewide. During both years, interdistrict magnet school students continue to score below the ERG A and above the ERG I levels. For both years, sixth grade middle students' results were substantially lower than those of their counterparts in elementary magnet schools, consistent with the results for mathematics and reading. By sixth grade, elementary magnet school students appear to be better prepared in writing than their counterpart who are entering grade six in middle magnet schools.

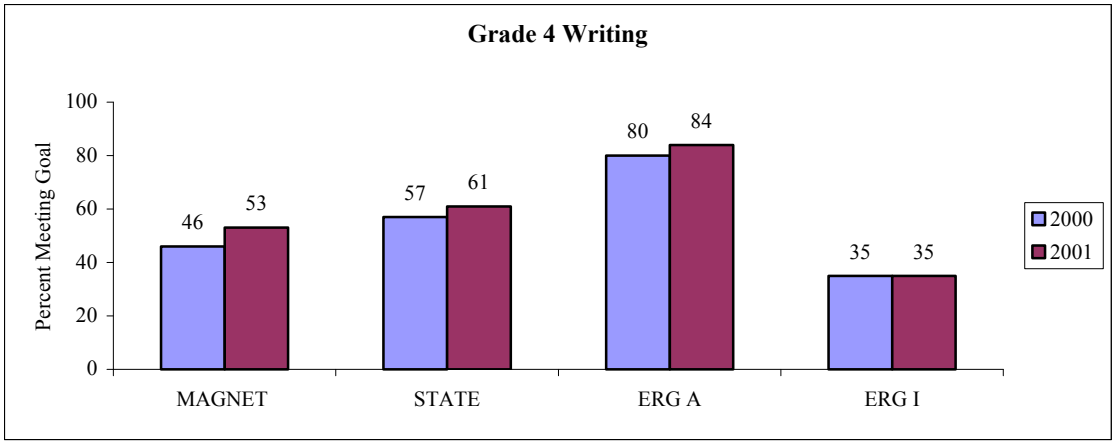

Figure 3.4a: Comparison of the Percentages of 4th Grade Students Scoring At or Above the State Goal on the CMT Writing Test

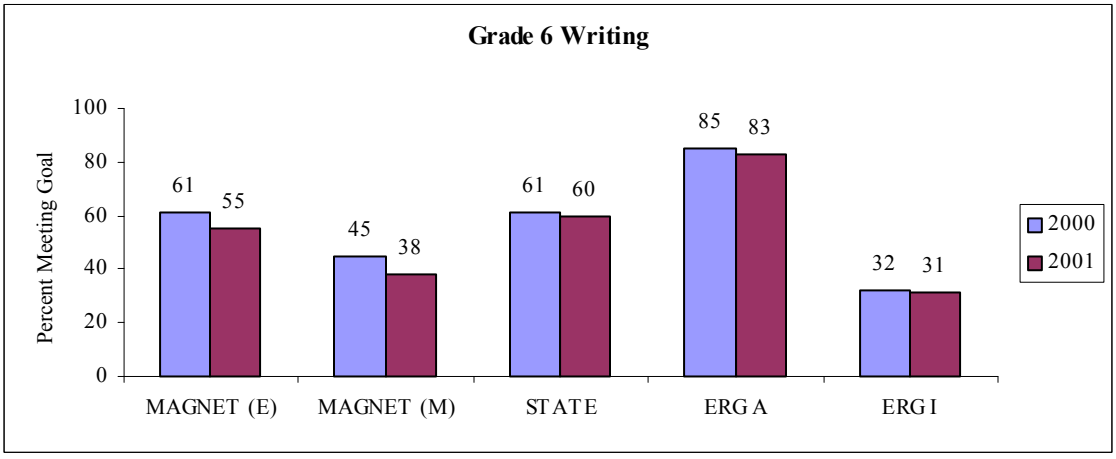

Figure 3.4b: Comparison of the Percentages of 6th Grade Students Scoring At or Above the State Goal on the CMT Writing Test

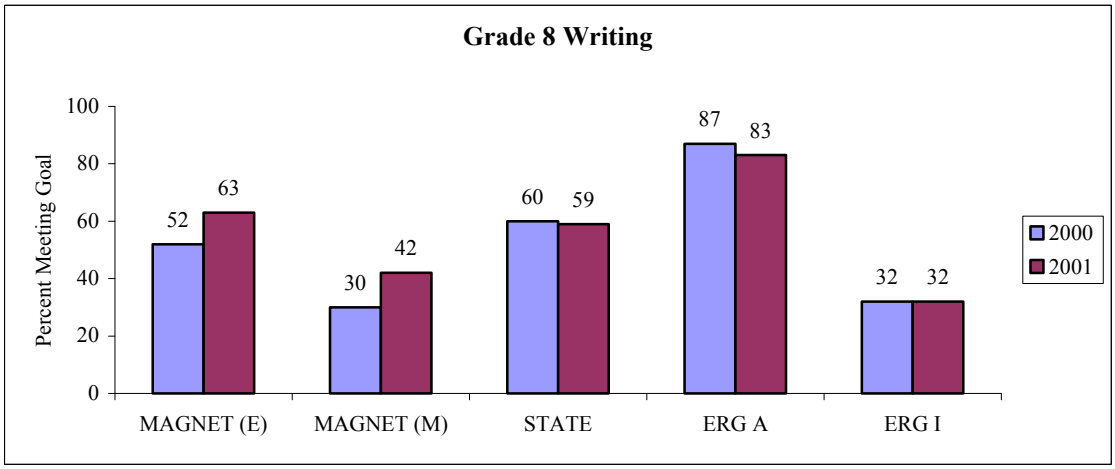

Figure 3.4c: Comparison of the Percentages of 8th Grade Students Scoring At or Above the State Goal on the CMT Writing Test

In 2000, 52 percent of elementary and 30 percent of the middle magnet eighth grade students scored at or above the state goal in writing. For 2001, 63 percent of the elementary and 42 percent of the middle magnet students met the state goal, with the elementary magnet percentage surpassing the state average (59%) by four percentage points, while the middle magnet average was 17 percentage points below the state average. For 2001, the 17 percentage point gap between eighth grade middle magnet school and statewide performance on the writing subtest of the CMT is lower than the 22 percentage point gap found for sixth grade students in the same middle schools.

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Parent, Teacher, and Student Perceptions of Magnet Elementary and Middle School Academic Standards and Program Quality

The surveys administered to elementary and middle school teachers and parents of students in grades two, five, and eight asked them to respond to two common statements about the quality of the academic programs their magnet schools provided. Figure 3.5 displays the percentages who agree (agree or strongly agree), are undecided, or disagree (disagree or strongly disagree) with the statement, 'The school offers a high quality program. It is clear from the figure that large proportions of elementary teachers (90%) and elementary parents (91%) hold a common perception that the academic programs their schools provide are high in quality, while only three percent of those teachers and six percent of those parents disagree. At the middle school level, 84 percent of the teachers and 90 percent of the parents share the belief that middle magnet schools offer high quality programs, while only four percent of the teachers and no parents disagree with the statement. Higher percentages of middle school teachers (12%) and parents

(10%) are undecided about the quality of their school's academic program than elementary teachers (7%) and parents (3%).

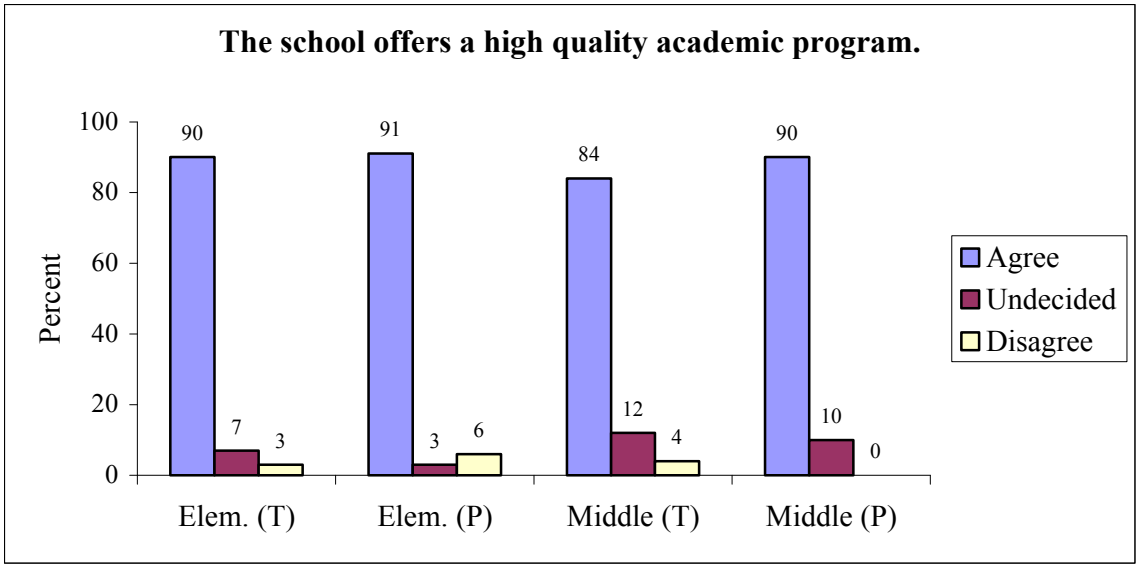

Figure 3.5: Elementary and Middle Magnet School Teacher and Parent Responses to 'The school offers a high quality academic program.'

Figure 3.6 identifies elementary and middle school parent and teacher responses to the statement, 'The school has high expectations for students' academic performance.' There is a uniformly high level of agreement among elementary teachers and parents and middle school teachers and parents that their magnet schools have set high expectations for the academic performance of the students they serve, while only a small percentage of each group disagree. Ninety percent of the elementary and 89 percent of the middle magnet teachers agree, compared with 89 percent of the elementary and 90 percent of the middle parents.

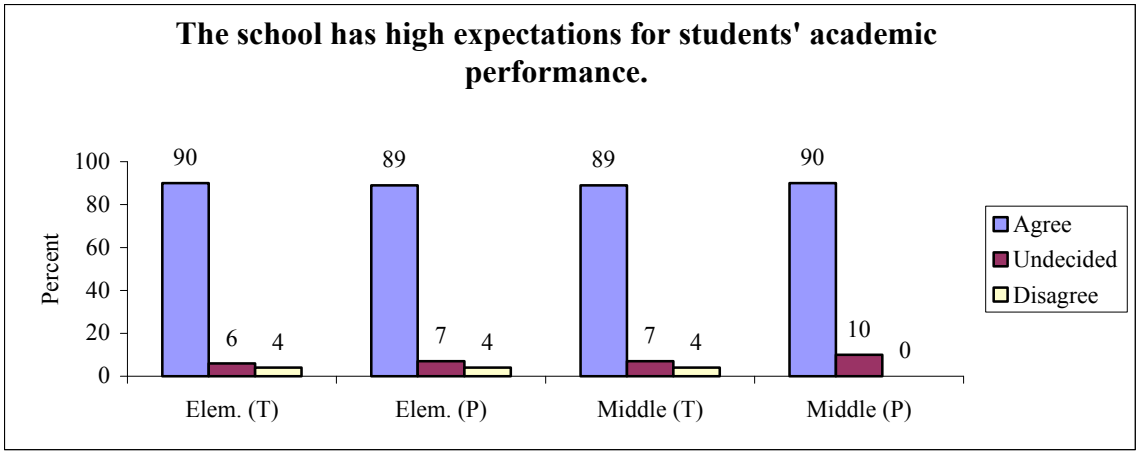

Figure 3.6: Elementary and Middle Magnet School Teacher and Parent Responses to 'The school has high expectations for students' academic performance.'

Parents were asked to respond to three statements about their son or daughter's experience in the magnet school's academic program:

My child finds the school's academic program challenging. (Chal)

My child is enthusiastic about learning. (Enth)

My child's academic performance has improved. (Impr)

Figure 3.7 provides a summary of the responses of elementary and middle school parents to the three statements. Eighty-four percent of elementary and 89 percent of middle magnet school parents believe that their children find their magnet school's academic program challenging, while 92 percent of the elementary and 89 percent of the middle school parents indicate that their child is enthusiastic about learning. In addition, 79 percent of the elementary parents feel their child's academic performance has improved compared with eight percent who believe it has not. For middle school parents, 93 percent agree their child's academic performance had improved, while none disagree.

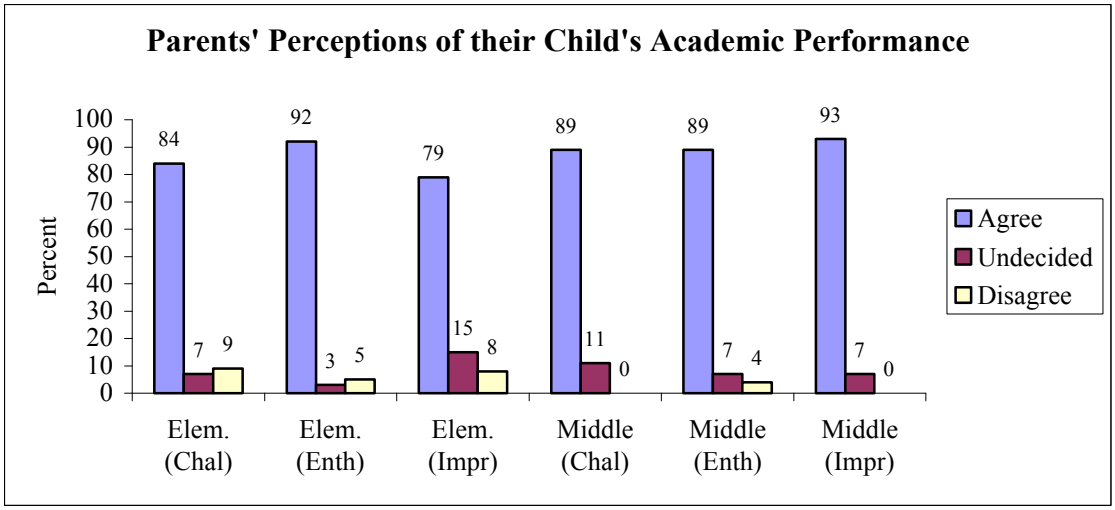

Figure 3.7: Elementary and Middle Magnet School Parent Responses to Statements About Their Child's Experiences in the Magnet School's Academic Program

Parents were asked to rate the importance of nine possible reasons for enrolling their child in an interdistrict magnet school. Table 3.2 summarizes the percentages of elementary and middle magnet school parents who identified the given reason as 'important' or 'very important' in influencing their decision.

The responses to the possible reasons for enrolling their child in an interdistrict magnet school vary somewhat for elementary and middle magnet school parents. Elementary magnet school parents' most highly cited reasons for selecting interdistrict magnet schools are: 'the quality of the teaching staff' (96%), 'the school's challenging academic program' (92%), 'the school's academic theme' (91%) and 'the quality of the school's administrative staff' (91%). Middle magnet school parents identified 'the school's challenging academic program' (96%), 'the quality of the administrative staff' (96%), the availability of 'technology supporting the academic program (96%),' and 'the quality of the teaching staff.'

Table 3.2: Percentages of Elementary and Middle Interdistrict Magnet School Parents Identifying the Reason for Enrolling Their Child as 'Important' or 'Very Important.'

Reason	Elementary	Middle
The school's academic theme	91	89
The challenging academic program	92	96
The quality of the teaching staff	96	93
The quality of the administrative staff	91	96
The school's academic support services	81	89
The school's diverse student population	73	71
Technology supporting the academic program	88	96
The school's distance from home	40	46
The quality of the local schools	55	50

For both groups of parents, school and program quality issues are central in influencing their school-choice decisions, while diversity of the student population is of lesser importance. Detractors, such as the school's distance from home or the quality of their local schools, are not as important to the majority of parents as the attraction of a high quality academic experience for their children.

Parents also were given the opportunity to make additional comments about the magnet schools their children attend. A magnet middle school mother summed up her son's experiences, "During the past three years at the magnet school, my child has achieved more than I ever expected. He especially benefits from the technology that supports the academic programs. … The administrators set high expectations for all the students academically and socially, and they expect the students to adhere to the

standards set. Overall, this magnet school is teaching education is a life long process. What an awesome message to send."

Teachers were asked to respond to three statements about students' academic performance:

Students have high expectations for their own academic performance. (Exp)

Students are motivated to learn. (Motiv)

Most students are making steady academic progress. (Prog)

Figure 3.8 illustrates elementary and middle magnet school teachers' responses to the statements.

The majority of elementary magnet school teachers believe that their students have high expectations for learning (72%), are motivated to learn (82%), and that most students are progressing academically (88%). In reflecting about her students' experiences and her own in the magnet school where she works, an elementary school teacher noted: " …If I were a child I would want to attend this school. It is a school where teachers and children feel safe being themselves. The individual personalities of the students and teachers are allowed and encouraged to flow freely. This is a community based on mutual respect and tolerance. It's not perfect but it's closer than I've ever seen in any school setting. I feel children learn best in this type of environment, where their individual needs are taken into consideration and their natural assets are fostered. I believe that the children in this school will be able to enter the world as adults and be authentic and positive contributors to their communities and to humanity in general."

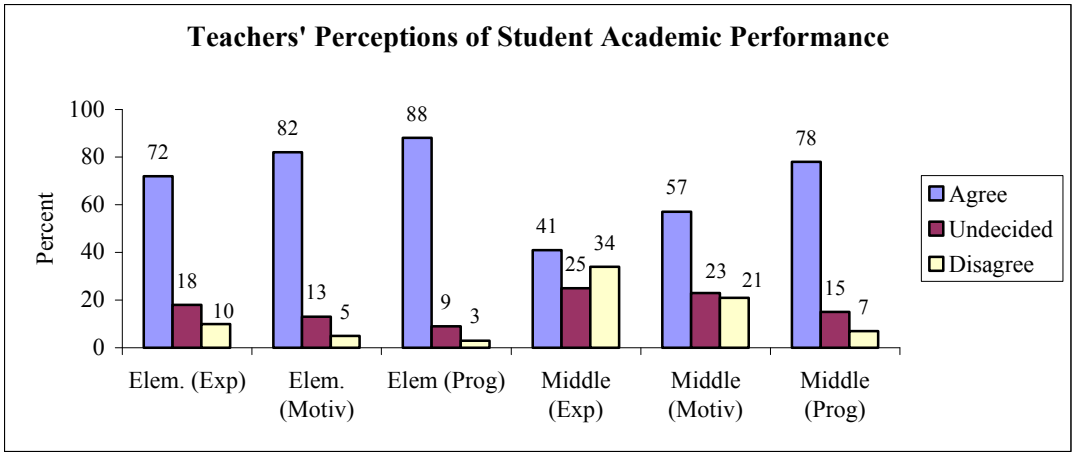

Figure 3.8: Elementary and Middle Magnet School Teacher Responses to Statements About Their Students' Academic Performance

In middle magnet schools, which serve a challenging age-group of students, teacher perceptions were somewhat less positive. However, while considerably smaller proportions of middle school teachers believe that their students' expectations for their own academic performance are high (41%), and students are motivated to learn (57%), more than three-fourths did concur that most students in their schools do make steady academic progress (78%).

Students in grades five and eight in elementary and middle schools were asked to respond to four statements about the expectations for learning in their schools and their own performance:

Teachers expect students to do their best work in class. (Exp)

Students know they must do their best work in class. (Know)

The work I do in school requires my best effort. (Best)

I am satisfied with my academic progress in this school. (Sat)

Figure 3.9 illustrates the percentages of elementary and middle school students who agree, are undecided, or disagree with each statement.

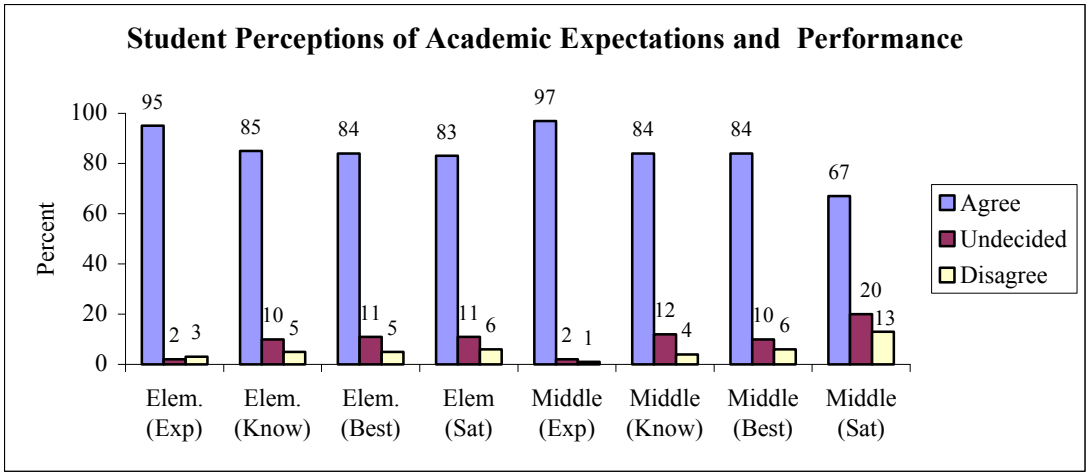

Figure 3.9: Elementary and Middle Magnet School Students' Responses to Statements About School Expectations and Their Academic Performance

The first two statements examined students' perceptions of their school's academic standards. There are high levels of agreement among elementary (95%) and middle (97%) magnet school students that teachers expect students to do their best work in class. When the responses were disaggregated by grade, regardless of the school's grade level configuration, responses were consistent across both grades with 96 percent of the fifth grade students and 94 percent of the eighth grade students agreeing. Elementary (85%) and middle (84%) magnet school students also agree that students in their schools know they must do their best work. A greater proportion of fifth grade students (91%) than eighth grade students (74%) are in agreement with this statement.

The last two statements asked students about their own behaviors. Eighty-four percent of both elementary and middle magnet school students agree that the work they do in school requires their best efforts, with five percent of the elementary and six percent

of the middle school students disagreeing. A larger proportion of fifth grade students (88%) than eighth grade students (79%) agree with the statement. In general, a greater proportion of elementary students (83%) are satisfied with their academic progress in the magnet schools than middle school students (67%). These percentages paralleled grade level responses, where 83 percent of the fifth grade students agree they are satisfied with their academic performance, compared with 65 percent of the eighth grade students.

Summary

The third generation CMT data reveal that interdistrict magnet school students participation rates in the standard grade-level CMT exceed the statewide average rates for each of grades four, six, and eight, and approach or surpass the participation level for ERG A schools, which are located in the state's most affluent districts.

Given the limited number of years of Third Generation CMT data, causal inferences cannot be drawn about the effect magnet school academic programs have on student academic achievement. However, the trends in student performance on the 2001 CMT in mathematics, reading, and writing are positive and suggest that the difference between the percentage of interdistrict magnet school students scoring at or above the state goal and the state averages decreases as students complete a greater number of years in interdistrict magnet schools. For fourth grade students, a double-digit difference existed between the average percentages of interdistrict magnet school students scoring at or above the state goal in mathematics, reading, and writing, and the statewide averages. In elementary magnet schools that house grade six, the gap between statewide performance and magnet school performance decreased from the fourth grade level, and for eighth

grade students in elementary magnet schools, the differences between magnet school and statewide performance in mathematics and reading in 2001 were reduced to single digits, while the percentage of eighth grade elementary magnet school students meeting the state goal in writing surpassed the statewide average.

Sixth grade performance was consistently higher for students in elementary interdistrict magnet schools than for students in middle magnet schools, who have had at most one year of their school's programming. However, by eighth grade, some of the gap between elementary and middle magnet school student performance found at grade six had been reduced, as had some of the gap between middle magnet school and statewide performance.

Survey data confirm that large proportions of parents and teachers share a common perception that elementary and middle grade interdistrict magnet schools offer high quality academic programs and have high expectations for students' academic performance. The majority of parents at both levels believe their children find the magnet schools' academic programs challenging, are enthusiastic about learning, and have improved academically. Most elementary magnet school teachers observed that students set high expectations for their own learning, are motivated to learn and, in fact, are making steady academic progress. While more than three-fourths of the middle magnet school teachers believe that their students are making steady academic progress, less than half reported that their students set high expectations for learning and slightly more than half indicate that students are motivated to learn.

Student survey responses from fifth and eighth graders in elementary and middle grade magnet schools indicate students share a common understanding of academic

expectations within their interdistrict magnet schools. The vast majority of students in both elementary and middle magnet schools understand that teachers expect them to do their best work in school, students know they must do their best work, and concur that the work they do in school does require their best effort. While the majority of elementary and middle interdistrict magnet school students are satisfied with their academic performance, the level of satisfaction is higher among elementary students than among middle school students. The survey data may suggest that, particularly for middle magnet schools, some students may have higher expectations for their own academic performance than they have been able to achieve.

Chapter 4

Student Academic Performance and Opportunities to Learn in Interdistrict Magnet High Schools

Introduction

There is a growing body of evidence suggesting that students who attend racially and ethnically diverse schools improve their performance on standardized tests and are less likely to drop out of school. Students also are more likely to attend college, benefit from better employment opportunities as adults, and then choose to live in integrated communities (Banks and McGee, 1995). Minority students who attended racially integrated high schools are more successful as college students than their counterparts with the same standardized test scores who attended racially segregated high schools (Camburn, 1990). Moreover, white and minority students who attended integrated schools studied and worked together, and, as a result, have built confidence in their ability to work in a diverse setting as adults.

Disparities in academic achievement between students in the state's most affluent districts and most needy districts that exist in the elementary and middle grades are also found at the high school level. The 2001 Connecticut Academic Performance Test (CAPT) was administered to students in grade 10 in mathematics, science, reading across the disciplines, and writing across the disciplines. In ERG A, where 95 percent of the grade 10 students were assessed using the Standard CAPT, approximately three-fourths scored at or above the state goal while only about one percent scored at the intervention level for each of the four subtests. Fifty-two percent of the ERG A students scored at or above goal on all four CAPT subtests. In ERG I, where 68 percent of the grade 10

students were assessed using the Standard CAPT, only 15 percent scored at or above the state goal on each of the four subtests while about 20 percent scored at the intervention level. Only five percent of the ERG I students scored at or above goal on all four CAPT subtests.

This chapter addresses the following questions about the performance of students in interdistrict magnet high schools:

1. How does the CAPT performance of magnet high school students compare with that of other groups of grade 10 students across the state?
2. Is there evidence that magnet high schools are contributing to reducing in the gap in academic performance for students who attend them?
3. How do the educational opportunities that magnet high schools provide their students compare with those available to students in other public high schools across the state?
4. What are the perceptions of parents, teachers, and students with respect to academic standards and program quality in interdistrict magnet high schools and interdistrict magnet programs?

'Magnet high school' refers to full-day comprehensive interdistrict magnet high schools, while 'magnet program' refers to the half-day and school-within-school programs. Since magnet program students receive instruction in most of the standard academic disciplines in their feeder districts' high schools, only their perceptions of program standards and quality will be reported in this chapter. Specialized school achievements in the programs will be discussed in Chapter 8 of this report.

The following data are provided to compare the academic performance of interdistrict magnet high school students to other groups of Connecticut public high school students:

- grade 10 student participation rates for the Standard CAPT,
- percentages of grade 10 students scoring at or above goal on the four First (1998, 1999, 2000) and Second (2001) Generation CAPT subtests, and on all subtests,
- changes in interdistrict magnet school CAPT scores over time relative to the statewide changes, and
- high school graduate access to academic opportunities and achievements beyond grade 10 (drop-out rates, enrollment in college preparatory and college level courses, SAT participation rates and scores, and post high school education).

Survey results from magnet high school and magnet program parents, teachers, and students provide insights into their perceptions of interdistrict magnet schools' academic standards and program quality.

Magnet High School Sample

As noted in Chapter 1, Connecticut has six interdistrict magnet schools that offer full-day programs for students in grades 9 through 12, four interdistrict magnet high school programs offering half-day programs, and two 'school within a school' high school programs housed in comprehensive local high schools. This analysis of student academic performance will focus on the four full-day high schools located in the city of New Haven. These schools enroll approximately 1625 students, 75 percent of whom are drawn from New Haven and the remaining 25 percent from18 high schools in

surrounding feeder communities. The students in the four interdistrict magnet high schools account for more than 92 percent of the students enrolled in full-day interdistrict magnet high schools in the state. All four New Haven schools have been operating as interdistrict magnet schools for a minimum of four years, so at least one graduating class of students has had the benefit of the entire high school program. The other two full-day interdistrict high schools are Tunxis Middle College High School, which had a total of 62 students in grades 9 through 12 when it opened in 2000, and Collaborative Alternative Magnet School, which enrolled 88 students in grades 7 through 12 in 2000. CAPT data is limited for the two schools and neither has been operating long enough to have data reported for a graduating class. CAPT and graduate data for magnet school students in half-day and 'school-within-a-school' programs is not available since the results for these students are included in the high school data for the districts where they reside.

Academic performance and opportunity are examined for the following groups:

- students from the four New Haven interdistrict magnet schools (MAGNET),
- students from the two comprehensive New Haven public high schools (LOCAL) who live in the same district where the magnet schools are located, and
- students from the public schools in the feeder districts (FEEDER).

Weighted averages were calculated to account for differences in the size of the student populations in the magnet and New Haven high schools, and the differences in the number of students that each feeder district sends to the magnet schools. The statistics for these three groups also are compared with those for the state as a whole, and for ERG A and ERG I high schools.

CAPT Participation Rates

The CAPT is the state mandated test for determining the academic performance levels of 10th grade students in Connecticut's public high schools. The test is administered annually in the spring and measures what students have learned in the elementary and middle grades as well as during their first two years in high school. Participation rates identify the percentage of students who took the Standard 10th Grade CAPT annually. Figure 4.1 compares the percentage of 10th grade students who took the standard grade ten CAPT each year from 1995-99 (average) to 2001 for the six groups of schools. Some students may not take the standard CAPT for a two reasons. The first is exemptions. Special education or bilingual students may be exempted from taking standard CAPT. The second reason is self-selection out of testing due to absence from school on the testing days. The participation rate for 10th grade students taking the CAPT provides a context for examining the test scores.

The figure indicates that since 1995 the proportion of magnet school 10th graders tested was at or above the state level, most similar to the rates found in ERG A and the feeder districts, and well above local and ERG I rates. Magnet high schools were the only school group that had a higher participation rate in 2001 than they averaged from 1995-99. This suggests that either fewer magnet school 10th grade students are exempted from taking the CAPT and/or interdistrict magnet high schools are more successful than other high schools in insuring that students attend school on the days the CAPT is administered.

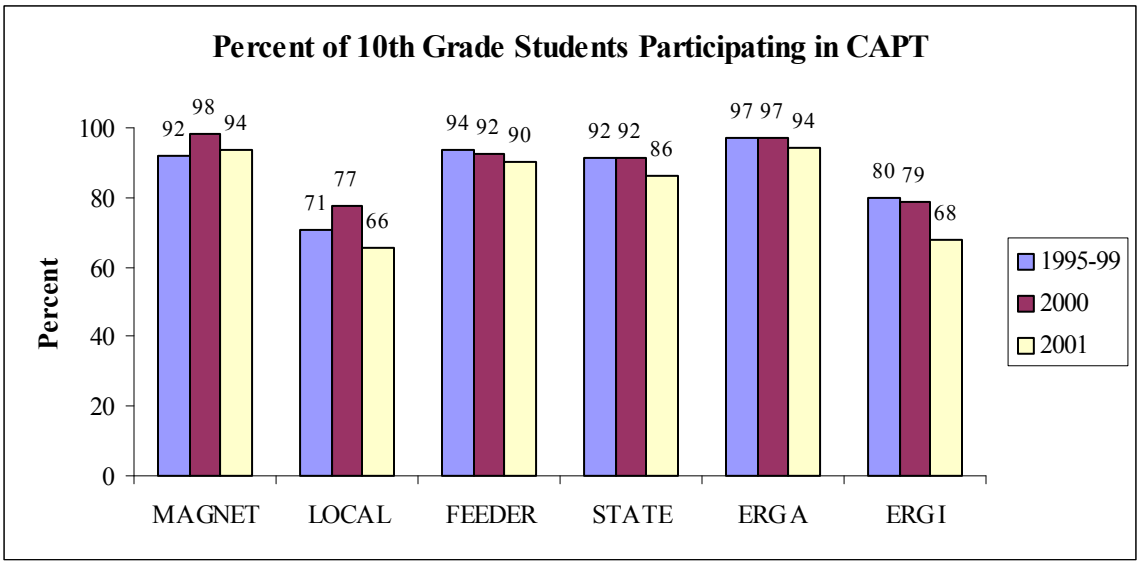

Figure 4.1: Comparison of the Participation Rates for Standard CAPT Administration

First Generation CAPT Performance

This section examines the percentages of students scoring at or above the state goal for the 1998-2000 (First Generation) Grade 10 CAPT on the mathematics, science, language arts, and interdisciplinary subtests, and on all tests. A summary of the 2001 (Second Generation) CAPT percentages for the mathematics, science, interdisciplinary reading, and interdisciplinary writing subtests, and all tests, follows. The results for the two CAPT generations are reported separately because direct comparisons between the First and Second Generation CAPT scores are not appropriate given changes in content, reporting, standards, and federally and state mandated policy changes which increased the number of special needs students who required testing.

Mathematics

Students scoring at or above goal in mathematics or science have demonstrated a strong understanding of the concepts and skills that Connecticut expects from high school students, including the ability to apply their knowledge and skills to solving complex

problems and effectively communicating their understanding of the problem solving process. Three years of First Generation CAPT data from 1998 to 2000 are presented in Figure 4.2, comparing the percentage of magnet students meeting the state goal in mathematics with the percentages of students for local and feeder districts, the state as a whole, and ERG A and ERG I districts.

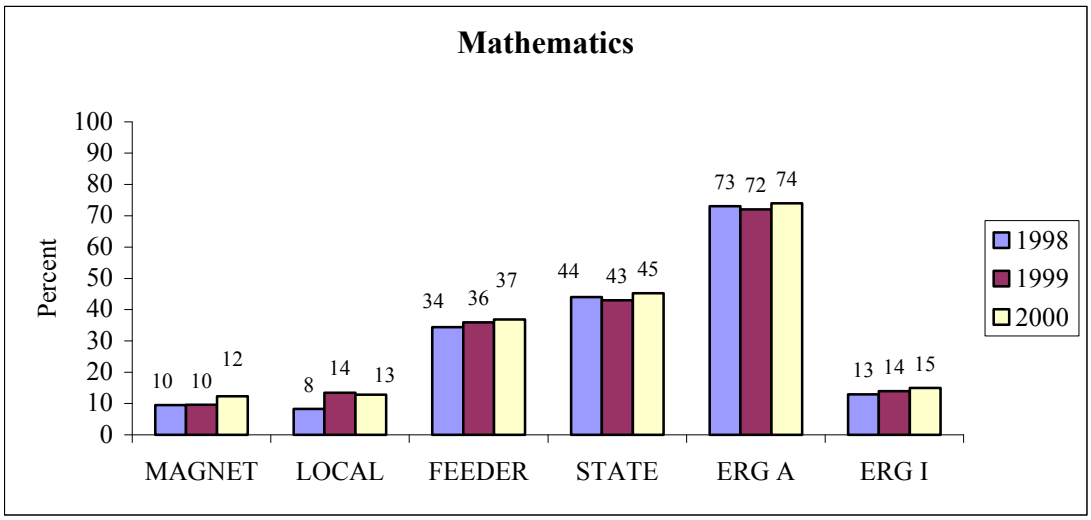

Figure 4.2: Comparison of the Percentages of 10th Grade Students Scoring At or Above the State Goal on the CAPT Mathematics Subtest from 1998 to 2000

In comparison to the other five groups of schools, smaller proportions of magnet school 10th grade students scored at or above the state goal in mathematics during each year, except in relation to the local high schools in 1998. However, the trend in improving mathematics performance is positive for magnet schools, particularly considering their students' high CAPT participation rate. The proportion of magnet school 10th grade students meeting or exceeding goal increased by two percentage points over the three year period, below the increase for local and feeder districts, but above the single point increase for the state and ERG A districts. This suggests that there was a modest decrease in the gap between the proportion of magnet school students and

students in more affluent communities across the state who are meeting the state standards for high school mathematics.

Science

Figure 4.3 illustrates the percentage of 10th grade students who scored at or above the state goal on the CAPT science subtest from 1998 to 2000. The pattern is similar to that found for mathematics. Again, the percentage of magnet school students scoring at or above the state goal is relatively low for each year. The four percentage point increase for magnet high schools from 1998 to 2000 is higher than the change in scores of any of the other school groups, suggesting that the magnet high schools may be beginning to make progress in reducing some of the gap in science achievement.

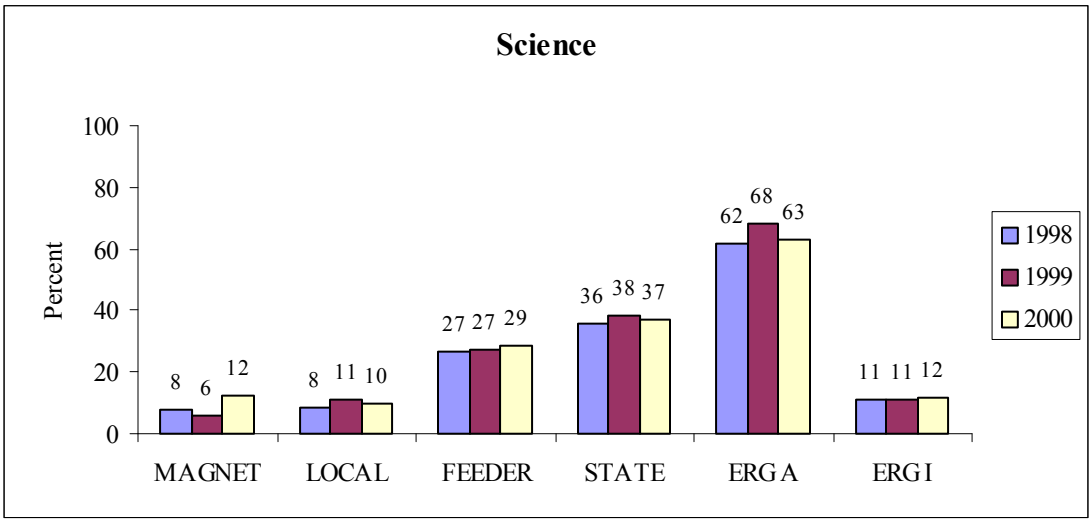

Figure 4.3: Comparison of the Percentages of 10th Grade Students Scoring At or Above the State Goal on the CAPT Science Subtest from 1998 to 2000

Language Arts

The First Generation CAPT contained Language Arts and Interdisciplinary subtests. Students were required to score at or above the state standards for both the 'Response to Literature' and 'Editing' sections of the Language Arts subtest to meet the state goal.

Students who scored at or above the standard for Response to Literature were able to demonstrate a perceptive and insightful comprehension of the text presented and support their interpretation of the text by making connections with other experiences or sources, while students scoring at or above the standard on Editing demonstrated an understanding of the grammar and usage conventions of the English language. Figure 4.4 compares the percentages of students scoring at or above goal on the CAPT Language Arts subtest annually from 1998 to 2000 for each of the six groups of schools. Over the course of the three-year period, smaller percentages of magnet school 10th grade students scored at or above the state goal, than did students in the other groups of schools, except for ERG I students in 2000.

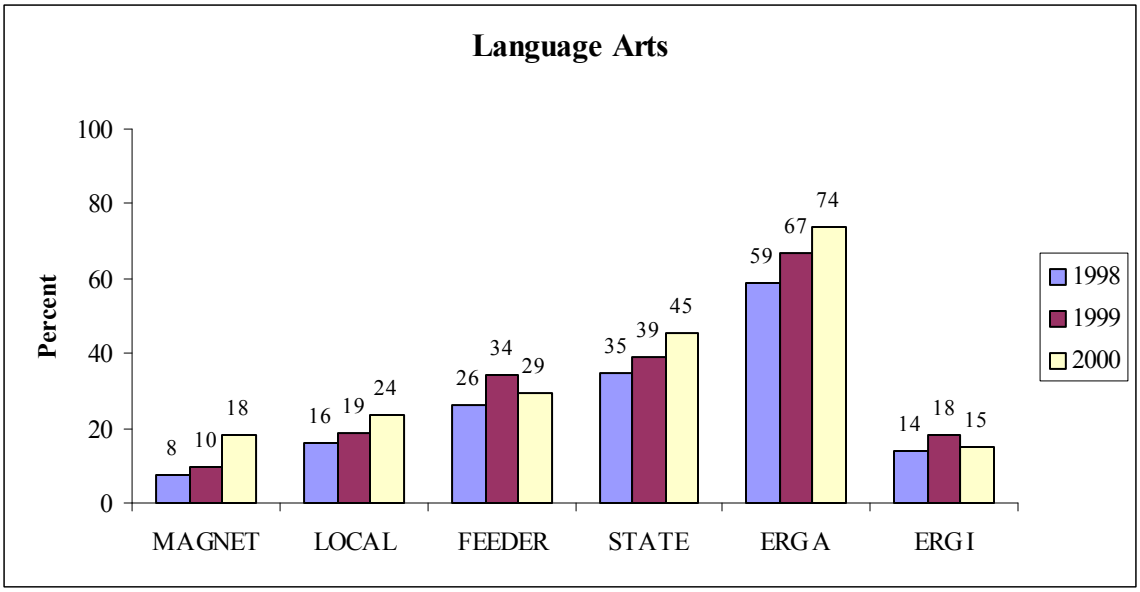

Figure 4.4: Comparison of the Percentages of 10th Grade Students Scoring At or Above the State Goal on the CAPT Language Arts Subtest from 1998 to 2000

Again, though, there is a positive trend in the proportion of interdistrict magnet school students meeting the state goal, with the magnet school rate increasing by 10 percentage points between 1998 and 2000. This 10-point increase is equivalent to that found across

the state, higher than the local, feeder, and ERG I increases and only lower than the 15 percentage point increase ERG A schools achieved.

Interdisciplinary

Figure 4.5 provides data on the percentage of 10th grade students scoring at or above the state goal on the Interdisciplinary CAPT subtest from 1998 to 2000 for each of the six groups of 10th grade students. Students who meet the state standard on the subtest have demonstrated that they can take a position on an issue by writing a clearly expressed and well organized response that provides accurate information from the source materials provided.

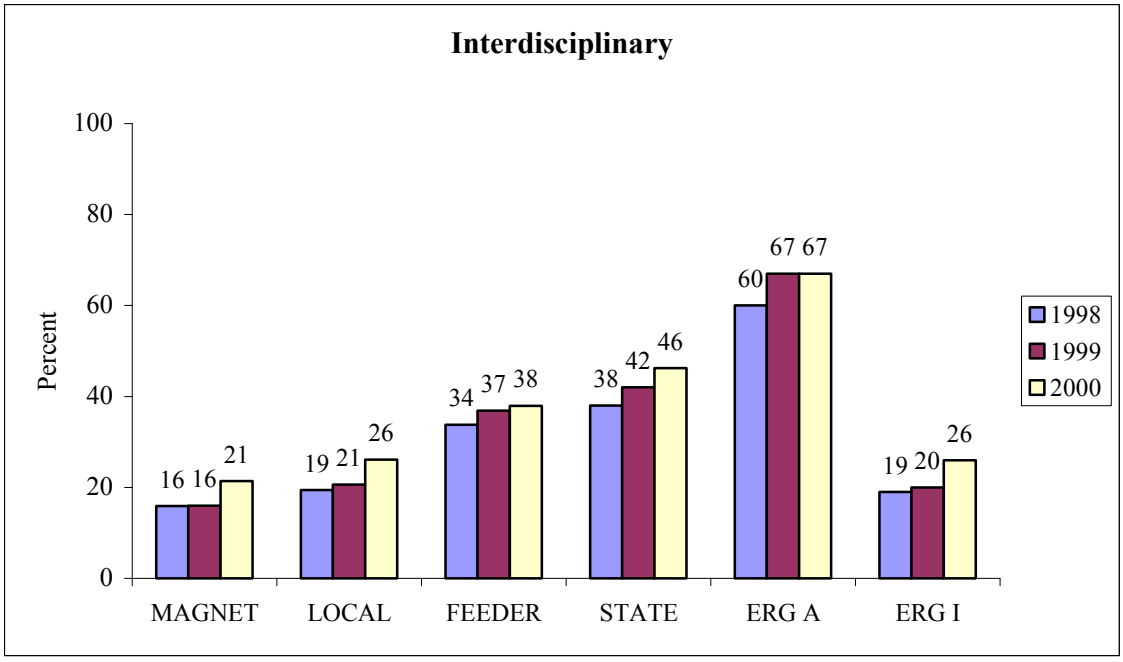

Figure 4.5: Comparison of the Percentages of 10th Grade Students Scoring At or Above the State Goal on the CAPT Interdisciplinary Subtest from 1998 to 2000

During each of the three years, magnet schools had smaller percentages of students meeting the state standard on the Interdisciplinary subtest than any of the other school groups. However, the figure reflects a positive trend in test scores for all six groups,

although the gap between the percentage of magnet school students meeting the state goal and the other school groups, except the feeder schools, increased over the three-year period.

Second Generation CAPT Performance

The Second Generation CAPT, first administered in 2001, also contained Mathematics and Science subtests, and Interdisciplinary Reading and Interdisciplinary Writing subtests, which replaced the First Generation CAPT Language Arts and Interdisciplinary subtests. Figure 4.6 compares the percentages of grade 10 students scoring at or above the state goal on each of the four Second Generation CAPT subtests for the six school groups. In 2001, the percentages of magnet school 10th graders scoring at or above goal on the four subtests, were comparable to or above the ERG I and local percentages, but still well below the feeder, state, and ERG A districts' percentages.

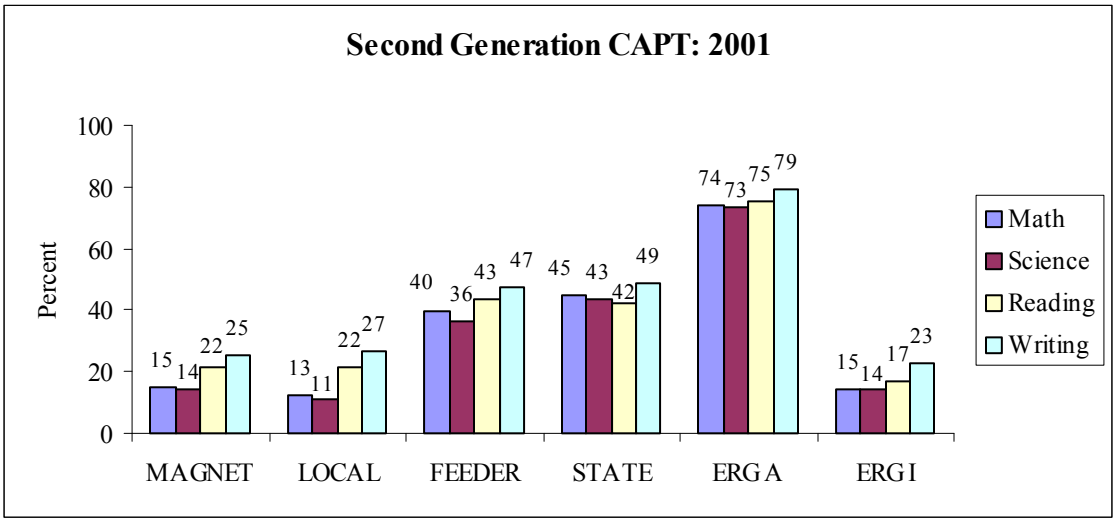

Figure 4.6: Comparison of the Percentages of 10th Grade Students Scoring At or Above the State Goal on the CAPT Mathematics, Science, Interdisciplinary Reading, and Interdisciplinary Writing Subtests in 2001

Percentages of Students Meeting Goal on All Four CAPT Subtests

Figure 4.7 provides a comparison of the percentage of students in each of the six school groups who met the state goal on all four First and Second Generation CAPT subtests from 1998 to 2001. For each year the percentages for magnet school students meeting goal were modestly lower than those found for the local and ERG I public schools, and considerably lower that the feeder, state-wide, and ERG A districts. Even though the trend is toward increasing percentages of students meeting the state goal on all four CAPT subtests, the figure clearly illustrates that interdistrict magnet school 10th grade students appear to be a highly at-risk group academically, based on CAPT performance.

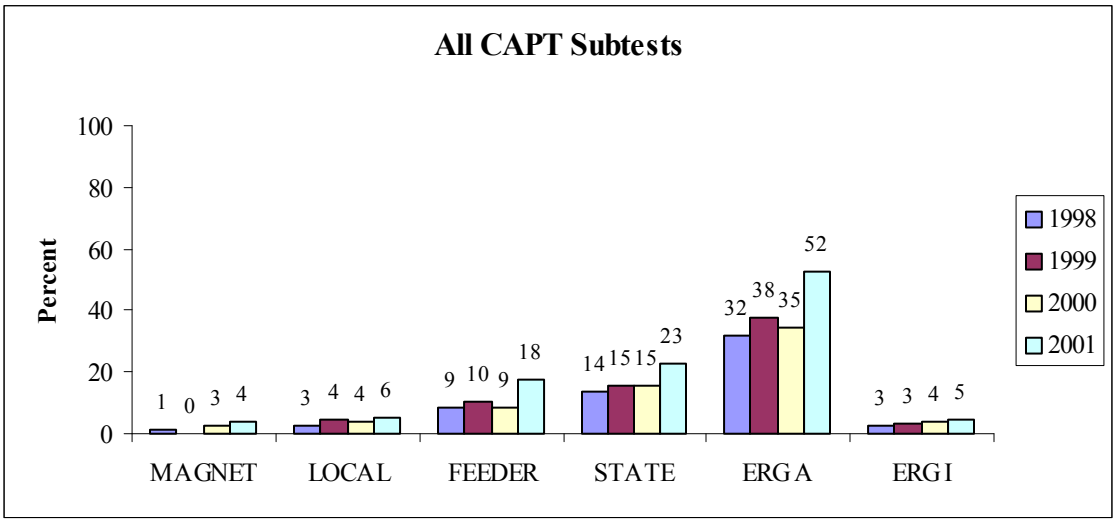

Figure 4.7: Comparison of the Percentages of 10th Grade Students Scoring At or Above the Goal on All CAPT Subtests from 1998 to 2001

Interdistrict Magnet Schools' Reduction in the CAPT Performance Gap

To examine whether the gap was narrowing or broadening between CAPT performance of students who attend interdistrict magnet high schools and public high school students across the state, two statistics were calculated. The first is the *ratio (ratio*

(m:s)) of the percentage of 10th grade magnet school students meeting the state goal to the percentage of students in the state meeting the state goal for each subtest, for each year. The following example illustrates how the ratio is calculated for the mathematics subtest results (Figure 4.2) for 1998: Ratio (m_{98}:s_{98}) = (10:44) or approximately .227. The .227 is interpreted: The proportion of interdistrict magnet school students who met the state goal in mathematics in 1998 was equivalent to 22.7 percent of the proportion of the students who had met the goal statewide. Table 4.1 contains ratios of magnet to statewide performance for the subtests of the CAPT given from 1998 through 2001, along with ratios for participation. A ratio close to zero indicates that a very small percentage of magnet school students met the state goal compared with the percentage of students meeting the goal in districts across the state, while a ratio close to one indicates that the proportion of magnet school students meeting the goal is similar to the statewide percentage, and a ratio greater than one indicates that the percentage of magnet school students meeting the goal exceeds the statewide percentage. By comparing ratios for the CAPT subtests over time we can determine if the achievement gap is decreasing or increasing. If ratios remain fairly constant over time, then the gap between magnet school student achievement and statewide performance is changing little, while an increase in ratios over time suggests a narrowing of the gap, and a decrease in ratios over time suggests a widening.

The second statistic, an *odds ratio (odds (m:s))*, can be used to compare relative rates of change between magnet schools and statewide in the percentage of students meeting the state goal for a given subtest, over time. For example, a comparison of the relative change in magnet-to-statewide mathematics CAPT performance in 2001 to what it had

been in 1998 would be calculated in the following manner: odds ($m_{01/98} : s_{01/98}$) = (.333:.227) or approximately 1.47. The 1.47 is interpreted: The likelihood (odds) of magnet school students, as opposed to a public school students statewide, meeting the state goal in mathematics was 1.47 times higher in 2001 than it was in 1998. An odds ratio of one indicates that the CMT scores for magnet school students are changing at the same rate as the scores of students statewide. An odds ratio of less than one indicates that magnet school students' scores are not keeping pace with change in statewide scores and an odds ratio of more than one indicates that the rate of change in the percentage of students meeting goal in magnet school CAPT scores is increasing more quickly than the statewide percentage. Table 4.1 also contains odds ratios for each subtest with at least three years of data. Although the state moved from The First to Second Generation CAPTs in 2001, index comparisons can be made across years because 10th grade students participating in the CAPT annually are administered the same generation of the test.

Table 4.1: Magnet-to-State Ratios and Odds Ratios for CAPT Subtests by Year

	Year				
Subtest	1998	1999	2000	2001	Odds Ratio
Mathematics	0.227	0.233	0.267	0.333	1.47
Science	0.222	0.158	0.324	0.326	1.47
Language Arts	0.228	0.256	0.400		1.75
Interdisciplinary	0.421	0.381	0.457		1.09
Interdisc. Reading				0.524	
Interdisc. Writing				0.510	
All Subtests	0.071	0.000	0.200	0.172	2.42
Participation	1.000	1.000	1.065	1.093	1.09

There are four years of data presented for mathematics and science. The trend over the four-year period for each is positive and indicates that the percentage of magnet school 10th graders meeting the state goal in each discipline has increased more rapidly than the percentages statewide, although magnet school students have not yet reached the same performance level as students across the state. The decline in science identified in1999, reversed itself in 2000 and 2001. Comparing the 2001 magnet-to-state ratio to the 1998 ratio, using an odds-ratio, we find that in 2001 the magnet school students were 1.47 times as likely as students statewide to meet the mathematics goal and the science goal than they were in 1998.

Three years of data from 1998-2000 are provided for the First Generation Language Arts and Interdisciplinary subtests. The trend for language arts is consistently increasing over the three year period of time, indicating that the percentage of magnet school students meeting the state goal has increased more rapidly than the percentage of students meeting the goal statewide, and that in 2000 interdistrict magnet school students were 1.75 times as likely as students statewide to meet the state goal than they were in 1998. The Interdisciplinary subtest index scores show an increase in 2000 over the previous two years, although it declined between 1998 and 1999, with the likelihood of magnet school students meeting the state goal between 1998 and 2000 increasing modestly over the statewide percentage (1.09). Interdisciplinary Reading and Writing ratios for the 2001 Second Generation CAPT suggest that the upward trends of increasing percentages of magnet school students meeting the state goals found for language arts and interdisciplinary, relative to students statewide, has continued.

Over the four-year period, the low-value ratios for meeting goal on all four subtests indicate that only small proportions of magnet school students met the state goal compared with students statewide, particularly in 1998 and 1999. During 2000 and 2001 the higher ratios suggest that magnet schools have been able to close the gap in meeting the statewide standard on all four subtests slightly over the two previous years. In 2001, magnet school 10th grade students meeting the state goal for all four subtests were more than twice as likely as students across the state to meet the state goal for all four subtests than they were in 1998.

Relative to participation rates on the standard CAPT, the ratios confirm the data presented in Figure 4.1. The percentage of 10th grade students administered the standard grade ten CMT over the last two years has increased more rapidly in magnet schools than it has statewide.

Magnet School Graduates' Academic Accomplishments

The end of grade 10, when the CAPTs are administered, represents the midpoint of most students' high school careers. The data presented in the previous sections suggest that interdistrict magnet high schools have relatively high participation rates for CAPT testing, however by the end of grade ten only small, but modestly increasing, proportions of the students in magnet high schools are academically prepared to meet the rigorous standards the state has set.

Now we turn to the academic accomplishments of magnet school graduates, who have completed two additional years in interdistrict magnet school academic programs.

Most members of the 2001 graduating class were in grade 10 in 1999, while most of the class of 2000 was in grade 10 in 1998. This section examines some of the 'opportunities to learn' that magnet high school graduates took advantage of during their high school years, compared with graduates of the local high schools, the feeder high schools, and the high schools in ERG A, ERG I, and statewide. Weighted averages are used again to account for student enrollment differences across schools in each subgroup. The section closes with a discussion of participation in, and performance on, the Scholastic Aptitude Tests (SAT), and a summary of post-high school education, military, and employment choices.

Drop-out Rates

Dropout rates are examined first, since students who leave high school before graduation loose the access to opportunities to learn that schools offer. Figure 4.8 compares the four-year cumulative drop-out rates for interdistrict magnet schools with the five other groups of schools. Overall, the recent trends show declines in the cumulative percentage of students who leave high school before graduation. For the four graduating classes from 1998 to 2001, ten percent or fewer of the interdistrict magnet high school students dropped out of high school between grades nine and twelve. This is lower than the statewide and feeder district averages of about 12 percent, and substantially lower than local and ERG I averages of between 20 and 35 percent. The rate, however, is considerably higher than ERG A rate, where the high school drop-out rate has remained between two and four percent.

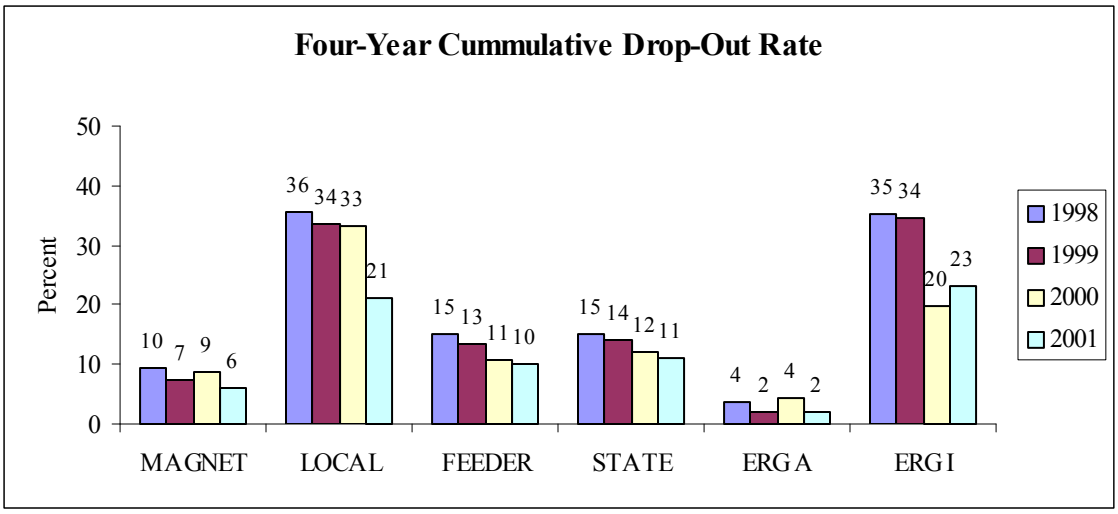

Figure 4.8: Comparison of Cumulative Four-Year High School Drop-Out Rates for the Graduating Classes of 1998 Through 2001

Enrollment in College Preparatory Courses

Students who select challenging academic courses in high school prepare themselves for a wide range of post-secondary education or employment options. Figure 4.9 compares the percentages of graduates from each of the six school groups who took algebra I, chemistry, and three years of world language during high school, for the 2001 graduating class. The three courses provide a foundation to prepare students for college level academic work. The percentage of magnet graduates who completed algebra I (91%) was consistent with the statewide percentage (90%), below ERG A (96%) high schools, but above the percentage for the feeder (84%), ERG I (81%), and local (69%) high schools. The chemistry completion rate for magnet high school graduates, 70 percent, was higher than that of graduates from all of the other groups, except ERG A graduates. The percentage of magnet school graduates who completed at least three years of a world language (46%) was lower than the ERG A (73%), feeder (57%), and

statewide percentages (56%), but above the average for the local (38%) and ERG I (40%) percentages.

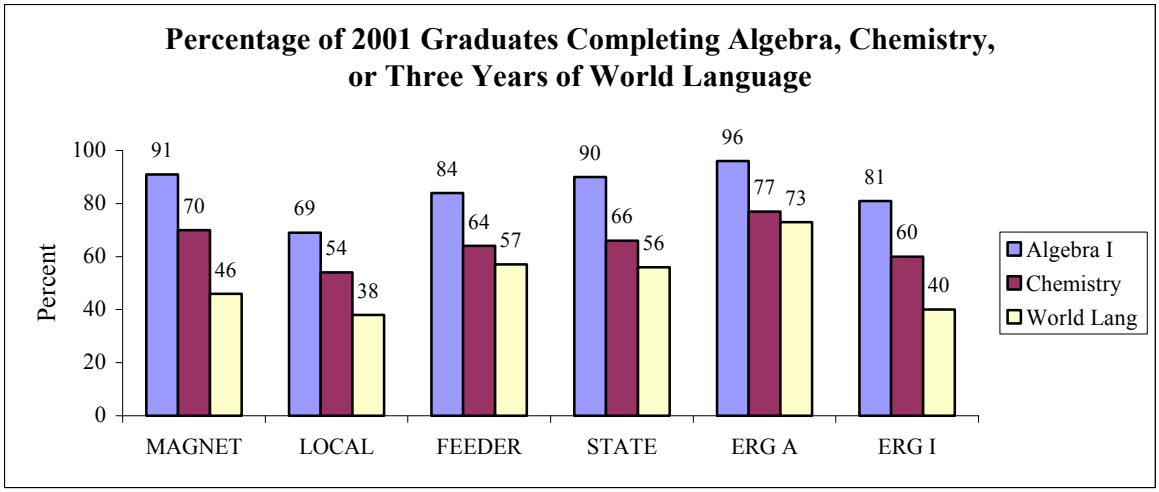

Figure 4.9: Comparison of the Percentages of 2001 Graduates Completing Selected College Preparatory Courses

Enrollment in College Level Courses

Most Connecticut public high schools provide academically talented students opportunities to enroll in Advanced Placement (AP) courses, for which students can earn college credit, and to take college-level courses for credit. Figure 4.10 compares magnet school enrollment in these types of courses for the graduating class of 2001 with graduates from the other five school groups. Interdistrict magnet school graduates had the highest participation rate (36%) in AP courses among the six groups in 2001. The proportion of magnet school graduates who had enrolled in a college-level course for credit while still in high school (24%) was similar to that for graduates statewide (27%) and in ERG I (22%), lower than ERG A (40%) graduates, and above those of the local (11%) and feeder (17%) high schools' graduates.

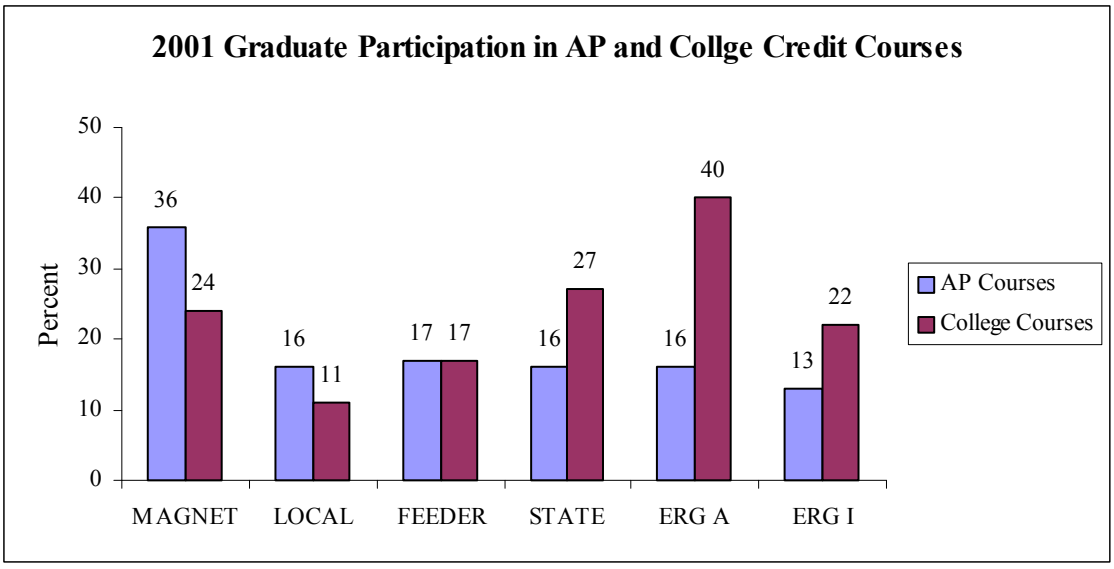

Figure 4.10: Comparison of the Percentages of 2001 Graduates Completing Advanced Placement or College Courses for Credit

SAT Participation and Performance

Most colleges and universities require prospective students to take the SAT and meet a designated standard for admission. Figure 4.11 compares the percentage of graduates who took the SAT from 1998 through 2001 for each of the six school groups and Figure 4.12 displays the average total SAT score (verbal and quantitative) for those graduates.

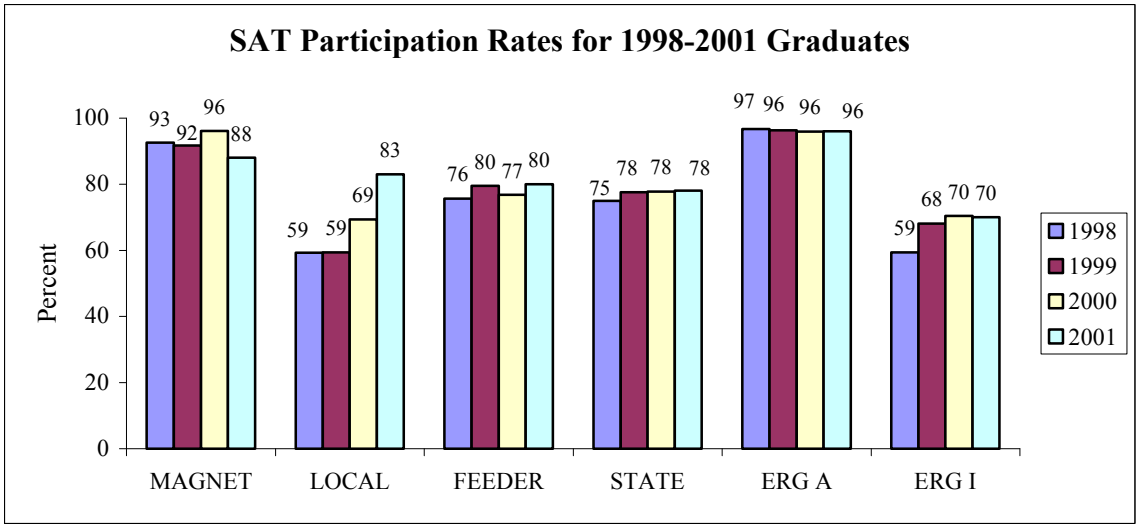

Figure 4.11: Comparison of the SAT Participation Rates for 1998-2001 Graduates

The proportion of magnet school graduates who took the SAT prior to graduation, about nine out of every ten, exceeded the local, feeder, state, and ERG I averages for each of the four graduating classes from 1998 to 2001, was slightly below ERG A proportions except for 2000, when magnet high schools equaled the ERG A proportion of 96 percent.

National trends in SAT participation and average performance for states and communities suggest there is an inverse relationship between the two variables, when other variables such community demographics are held constant, since the additional students taking the SAT are more likely to be drawn from the lower aptitude end of the academic continuum than from the higher aptitude end. Although higher percentages of magnet school graduates have been taking the SAT, interdistrict magnet school graduates' average scores were consistent with, and in some years higher than, those of graduates in the local and ERG I high schools, but still substantially lower than the feeder, state, and ERG A averages.

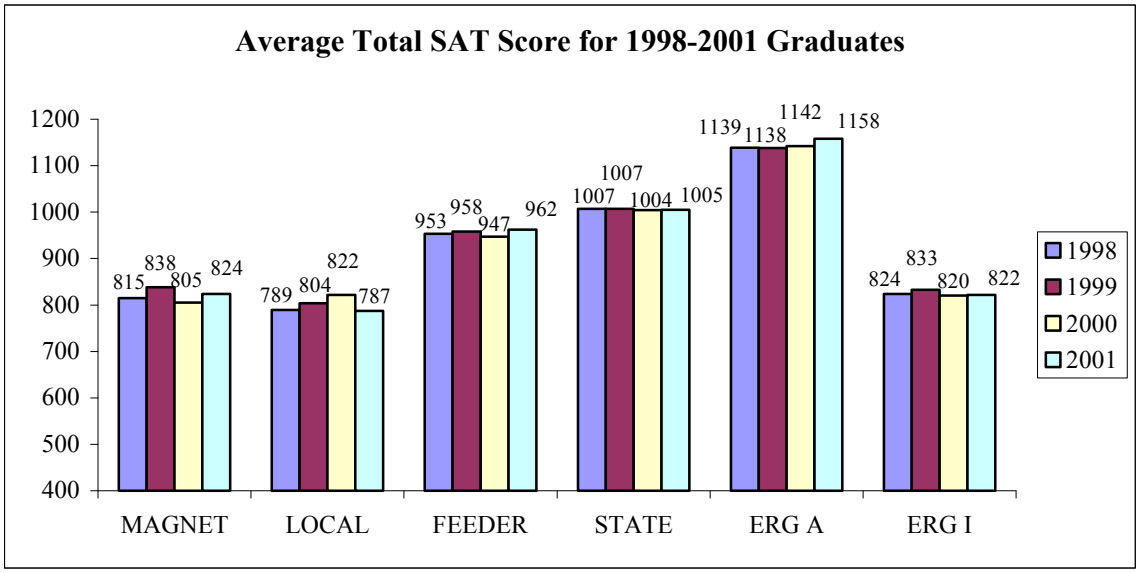

Figure 4.12: Comparison of the Average Total SAT Scores for High School Graduates from 1998 to 2001

Post High School Education and Employment

The CSDE collects graduate follow-up data from districts about graduates' post high school education and employment activities including the percentage of students who enter four-year and two-year higher education programs, and the percentage who enter the military or are employed. Figure 4.13 compares the percentages of high school graduates who enrolled in four-year colleges and universities after graduation, from 1998 through 2001 for the six groups of high schools. Approximately two-thirds of magnet graduates entered four-year college programs, a proportion much more similar to that of the feeder high schools than to local or ERG I high schools. For 1998 through 2000, the percentage of magnet school graduates enrolling in four-year college programs exceeded all but ERG A graduates, and in 2001 exceeded all but ERG A and feeder graduates. Over the four-year period, the percentage of magnet school graduates enrolling in four-year colleges shows a steady, but modest, increase

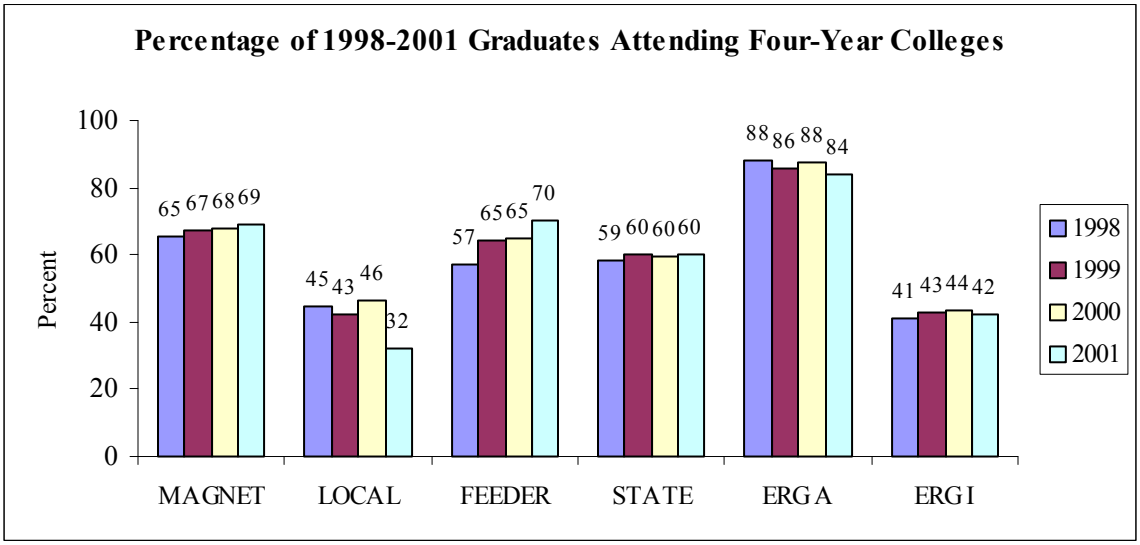

Figure 4.13: Comparison of the Percentages of High School Graduates Enrolling in Four-Year Colleges from 1998 to 2001

Figure 4.14 presents the percentages of the 1998-2001 graduates in the six groups who attended two-year colleges after high school. Over the four year period, the percentage of magnet school graduates attending two-year institutions was more closely aligned with the percentages for the feeder high schools and high schools statewide, than it was for the local and ERG I schools, where larger proportions of graduates attend two-year college programs, or ERG A where smaller proportions of graduates continue their education in two-year programs.

The proportion of magnet school graduates who pursued higher education by enrolling in either two or four-year college programs is consistently high for the four classes of graduates. About 85 percent of magnet school graduates enrolled in two or four-year post-secondary education programs, compared with 94 percent of the ERG A graduates, about 80 percent of the feeder and statewide graduates, and 75 percent of the local and ERG I graduates.

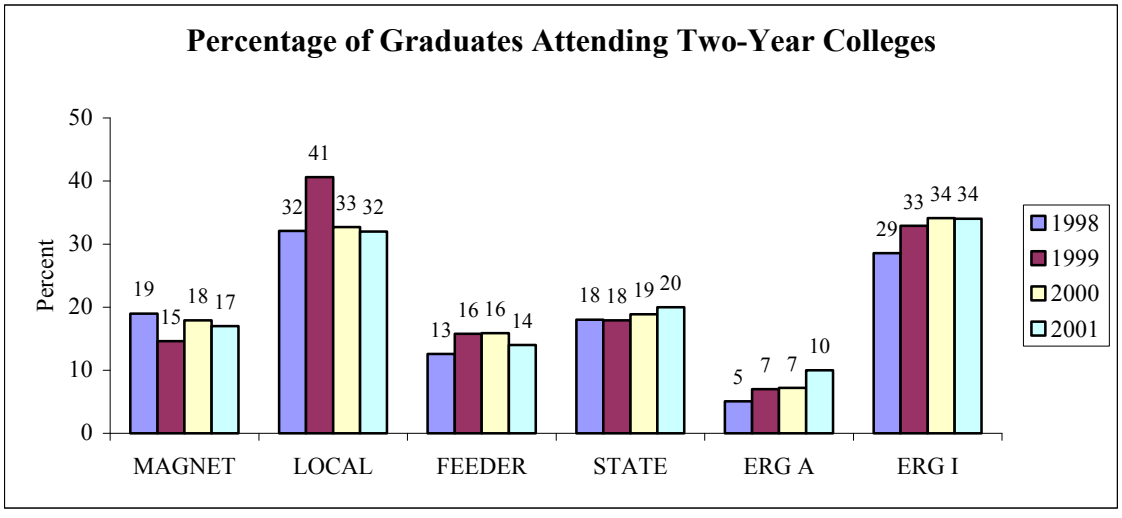

Figure 4.14: Comparison of the Percentages of High School Graduates Enrolling Two-Year Colleges from 1998 to 2001

Figure 4.15 summarizes the percentages of 1998-2001 graduates who either entered the military after graduation or entered the world of work. Again, the percentage of interdistrict magnet school students doing so is more consistent with the proportion of graduates from the feeder districts and statewide than with the other subgroups of districts.

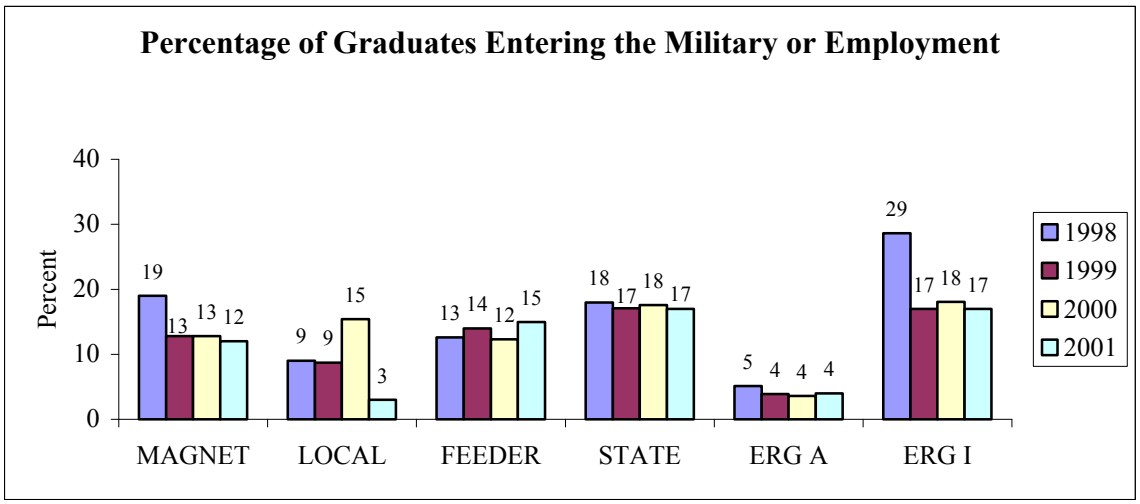

Figure 4.15: Comparison of the Percentages of High School Graduates Entering the Military or Employment from 1998 to 2001

For the 2001, the percentages of magnet graduates entering four-year or two-year post-secondary educational programs, or the military or employment accounted for 98.2 percent of magnet high school graduates, the same percentage as the feeder districts. The post high school plans for only 1.8 percent of the graduates were unknown. The percentages of graduates pursuing these options accounted for 97.2 percent of ERG A graduates, 96.2% of the graduates statewide, 83% of ERG I graduates, and 67.2 percent of the graduates of the two local high schools.

Parent, Teacher, and Student Perceptions of Magnet High School and Magnet Program Academic Quality

Surveys were administered to interdistrict magnet high school and magnet half-day program parents (P) and teachers (T), asking them to respond to two common statements about the quality of the academic programs their magnet high school or magnet program offered. Magnet high school refers to all full-day comprehensive interdistrict magnet high schools, while magnet program refers to the all half-day and school-within-school programs.

Figure 4.16 summarizes the percentages who agree (agree or strongly agree), are undecided, or disagree (disagree or strongly disagree) with the first statement, 'The school offers a high quality program.' A large percentage of magnet high school teachers (79%) and parents (71%) agree that the academic programs their schools provided were high in quality, while four percent of the teachers and 17 percent of the parents disagree, and 17 percent of the teachers and 12 percent of the parents are undecided.

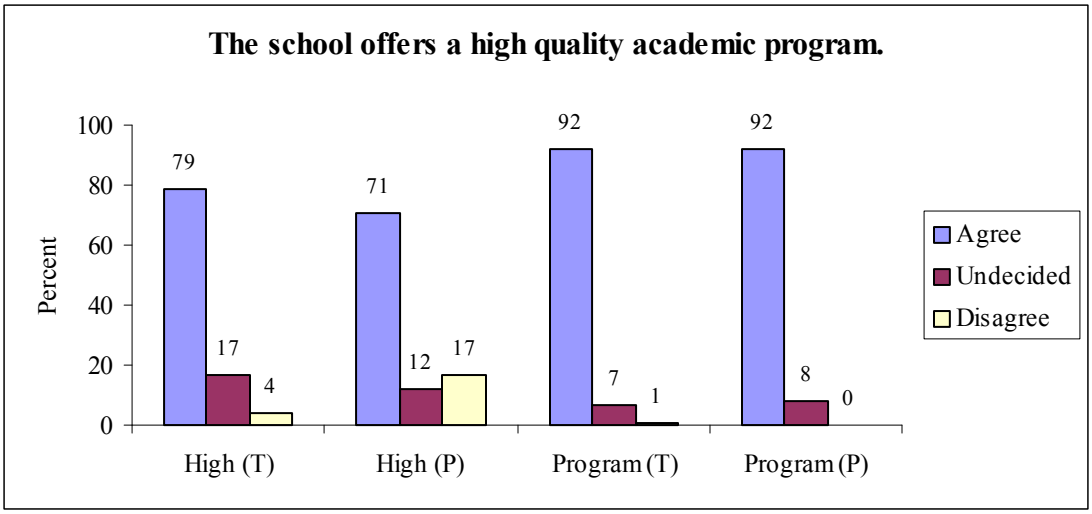

Figure 4.16: Magnet High School and Program Teacher and Parent Responses to 'The school offers a high quality academic program.'

For magnet school programs, 92 percent of both teachers and parents share the belief that the magnet programs their children attend are high quality, while only one percent of the teachers and no parents disagree with the statement. Small proportions of magnet program teachers (7%) and parents (8%) are undecided about the quality of the academic programs.

Figure 4.17 summarizes teacher and parent responses to the second common survey statement about program quality, 'The school has high expectations for students' academic performance.' Agreement among magnet high school teachers (83%) and parents (74%) is high, as well as among magnet program teachers and parents, where 93 percent of both groups agree. The largest degree of disagreement with the statement is among magnet high school parents (14%), followed by magnet high school teachers (11%), while only three percent of the magnet program teachers disagree and no magnet program parents disagree. A larger proportion of high school parents (12%) are undecided than magnet program parents (7%), and a larger proportion of high school teachers (6%) are undecided than magnet program teachers (4%).

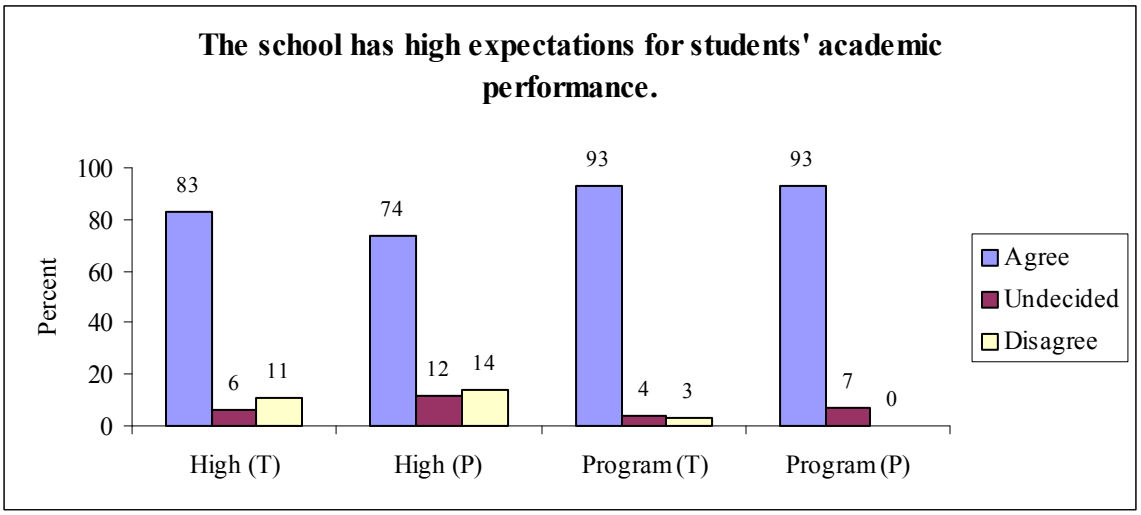

Figure 4.17: Magnet High School and Program Teacher and Parent Responses to 'The school has high expectations for students' academic performance.'

A magnet high school teacher offered the following comment about the school's academic offerings: "I selected this magnet school -- and have wished to remain here -- not because of its convenient location or its compensation is so competitive, but because I feel that the school has the best opportunity to offer students a thorough well-rounded education."

High school and magnet program parents were asked to respond to three statements about their child's experience in the magnet school's academic program:

My child finds the school's academic program challenging. (Chal)

My child is enthusiastic about learning. (Enth)

My child's academic performance has improved. (Impr)

Figure 4.18 summarizes their responses to the three statements. The majority of magnet high school parents agree that their child finds the school's academic program challenging (55%) and is enthusiastic about learning (63%), and their child's academic performance has improved (50%), while about 30 percent of those parents disagree with each of the three statements. Of the parents with children in magnet programs, 94

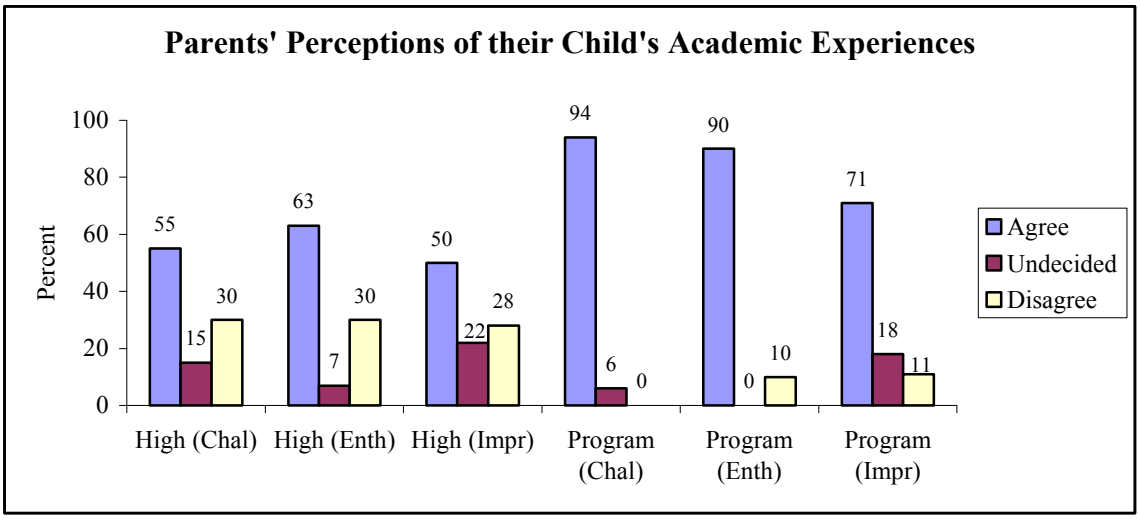

Figure 4.18: Magnet High School and Program Parent Responses to Statements About Their Child's Experiences in the Magnet School's Academic Program

percent concur that their child finds the program challenging and none disagree, 90 percent believe their child is enthusiastic about learning while 10 percent disagree, and 71 percent indicate that their child's academic performance has improved, while 11 percent disagree.

Parents of magnet high school and magnet program tenth grade students were asked to rate the importance of nine factors to their decision to enroll their child in an interdistrict magnet high school or magnet program using a five-point scale ranging from 'unimportant' to 'very important.' Table 4.2 displays the percentage of parents in each group who rated the given reason 'important' or very important.'

Table 4.2: Percentages of Magnet High School and Magnet Program Parents Identifying the Reason for Enrolling Their Child as 'Important' or 'Very Important.'

Reason	Magnet High School	Magnet Program
The school's academic theme	77	95
The challenging academic program	82	95
The quality of the teaching staff	85	98
The quality of the administrative staff	80	85
The school's academic support services	80	62
The school's diverse student population	58	68
Technology supporting the academic program	67	54
The school's distance from home	43	36
The quality of the local schools	54	17

For magnet high schools, the largest proportion of parents cite the quality of the magnet school's teachers (85%), the challenge of the academic programs (82%), the

quality of the school's administration (80%), and the school's academic support services (80%), as important or very important in their decision to enroll their child in the interdistrict magnet high school. For magnet programs, large percentages of parents rate the quality of the program's teachers (98%), the academic program's challenge (95%), the school's academic theme (95%), and the quality of the school's administration (85%) as important or very important in their school-choice decisions. The school's academic theme is less important to magnet high school parents (77%) than it is for magnet program parents (95%), while the school's academic support services are less important to magnet program parents (62%) than they are to magnet high school parents (80%).

Like the elementary and middle interdistrict magnet school parents, quality issues drive their decisions to select interdistrict magnet schools and magnet programs. The diversity of the school population and technology are less important to magnet high school parents and to magnet program parents than the quality factors. Again, detractors like the distance of the school or program from home or the quality of the local school play a lesser role for most parents in their decisions to select interdistrict magnet schools and programs. A magnet high school parent observed: "My child comes from a (suburban) public school district. Her experiences in that district from grades K-8 were very unsatisfactory and, therefore, this school was the perfect alternative. She has become much more positive about school, and has moved forward academically in leaps and bounds." A magnet program mother noted: "My child's experience in the magnet school (program) has been incredible. .. I feel the school support and encouragement to succeed in both the home school and magnet school is one reason for my daughter's

enthusiasm and success. I only wish that I could go back to high school and attend this magnet school."

Magnet high school and magnet program teachers were asked to respond to three statements about students' academic performance in their schools:

Students have high expectations for their own academic performance. (Exp)

Students are motivated to learn. (Motiv)

Most students are making steady academic progress. (Prog)

Figure 4.19 presents a summary of teachers' perceptions of students' expectations, motivation, and academic progress. Half of the magnet high school teachers agree that their students have high expectations for learning, while 30 percent disagree, and 20 percent are undecided. For magnet program teachers, 68 percent agree with the statement, 11 percent disagree, and 21 percent are undecided.

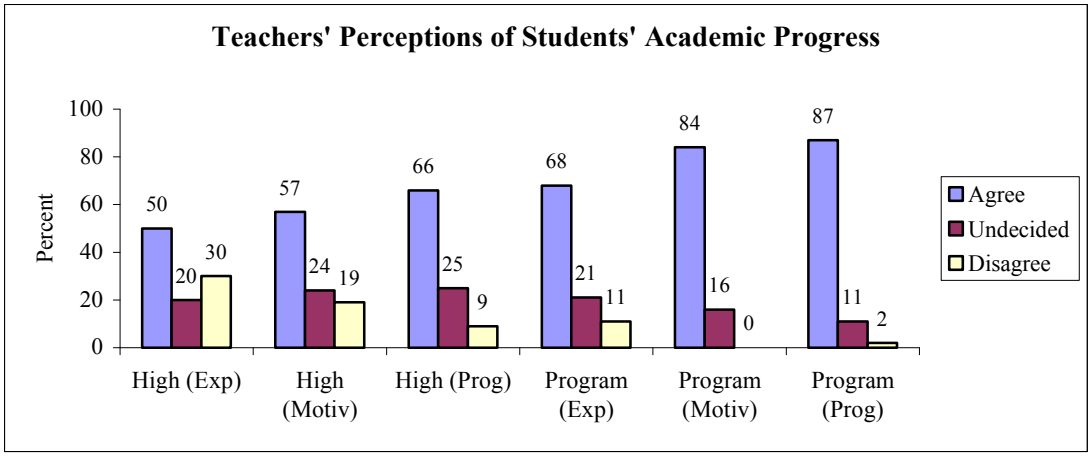

Figure 4.19: Magnet High School and Program Teacher Responses to the Statements About Their Students' Academic Performance

Larger proportions of both groups of teachers agree with the second statement, that their students are motivated to learn, with 57 percent of the high school teachers and 84 percent of the magnet program teachers agreeing. Nineteen percent of the high school

teachers disagree with the statement and no magnet program teachers disagree, while 24 percent of the high school and 16 percent of the magnet program teachers are undecided.

The majority of teachers in both groups agree that most students in their schools are making steady academic progress. For magnet high school teachers, 66 percent agree, nine percent disagree, and 25 percent are undecided. For magnet program teachers, 87 percent agree, two percent disagree, and 11 percent are undecided.

Grade ten students in magnet high schools and magnet programs were asked to respond to four statements about the expectations for learning in their schools and their own performance:

Teachers expect students to do their best work in class. (Exp)

Students know they must do their best work in class. (Know)

The work I do in school requires my best effort. (Best)

I am satisfied with my academic progress in this school. (Sat)

Figure 4.20 illustrates the percentages of magnet high school and magnet program students who agree, are undecided, or disagree with each statement. There is a high level of agreement among magnet high school students (83%) and magnet program students (95%) that teachers in their school expect students to do their best work. Only seven percent of the magnet high school and four percent of the magnet program students disagree, while 10 percent of the magnet high school students and one percent of the magnet program students are undecided. The level of agreement was somewhat lower in response to the statement, 'Students know they must do their best work in class.' Sixty-four percent of the magnet high school students agree with the statement, while 17 percent disagree and 20 percent are undecided. Seventy-nine percent of the magnet

program students agree that students in their schools know they must do their best work in class, while nine percent disagree and 12 percent are undecided.

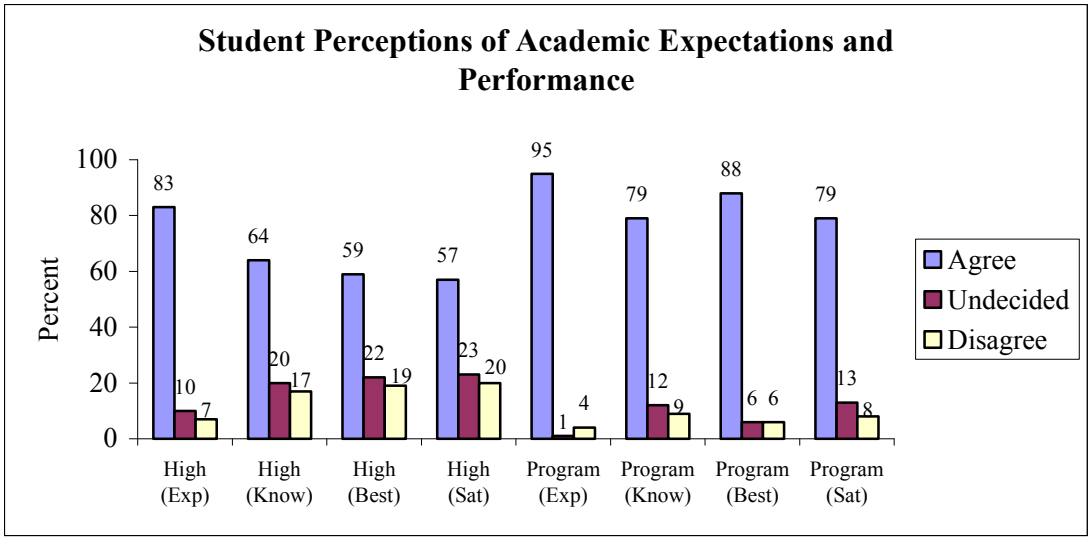

Figure 4.20: Magnet High School and Program Student Responses to Statements About School's Expectations and Their Academic Performance

When asked about their own performance, 59 percent of the magnet high school students indicate that the work they do in school requires their best effort and 57 percent responded that they are satisfied with the academic progress they are making. About one in five of the magnet high school students disagree or are undecided regarding both statements. For 10th grade students in magnet programs, 88 percent agree that the work they do requires their best efforts, while six percent either disagree or are undecided. Seventy-nine percent of the magnet program students are satisfied with their academic progress, compared with eight percent who are not satisfied, and 13 percent who are undecided. A magnet program student qualified his dissatisfaction with his progress in the following manner: "I am not satisfied with my academic progress because I expect more of myself."

Students offered many insights about aspects of their magnet high school and magnet programs that provided challenge or contributed to their own academic success. A magnet high school student reflected, "I like the unlimited opportunities of there being something more challenging in the school, ... for example, college classes in (high) school." A student in another magnet high school noted, "This school gives students who need that little extra the help they need to be successful and be proud of the work they do." A magnet program student acknowledged, "I've only had positive experiences in the school as I've been taught to learn things in new ways through my education here."

Summary

This section provided data about interdistrict magnet school student academic performance in magnet high schools. The CAPT data identified the level of academic performance in mathematics, science, reading, and writing that magnet high school students attained by the end of grade 10. The findings indicate that magnet high school students' participation rates for standard CAPT administrations exceed statewide averages and approach the participation rate found in ERG A schools. Compared with the statewide averages, relatively small percentages of interdistrict magnet high school grade ten students score at or above the state goal on each of the four CAPT subtests, although the proportion of magnet school students meeting goal has increased modestly over the last four years, and has been increasing at a faster rate than the statewide proportion.

CAPT is administered at the midpoint of students' high school careers at the end of tenth grade, and assesses the skills and knowledge that students have acquired from pre-

kindergarten through grade 10. Graduate follow-up data found that smaller proportions of interdistrict magnet high school students, than students statewide, drop out of high school prior to graduation. Moreover, while in high school, the proportions of interdistrict magnet high school graduates who complete algebra I and chemistry exceed the statewide averages, while the proportion who complete three years of a world language exceeds the local and ERG I districts. Magnet high school graduates are more likely to enroll in AP courses than other graduates in the state and nearly as likely to take a college course for credit while in high school. In addition, the percentage of magnet graduates taking the SAT approaches the average for ERG A high schools, while total SAT performance is at or above that for the ERG I and the local high schools. After graduation, the percentage of magnet school graduates enrolling in two or four-year college programs exceeds the statewide average, while the proportion entering the military or the world of work is below the statewide average.

Survey data suggest that the majority of magnet high school and magnet program parents and teachers believe their schools offer high quality academic experiences for students and have high expectations for students' academic performance. Most magnet high school and magnet program parents believe their children find the school challenging academically, are enthusiastic about learning, and have made academic progress, with the level of agreement higher among magnet program parents than magnet high school parents. The quality of teachers and administrators, and the challenge of the academic program are central to magnet high school and magnet program parents' decisions to enroll their children in interdistrict magnet schools and programs.

The majority of magnet high school and magnet program teachers, like parents, believe that their students have high expectations for their own learning and are motivated to learn, and that most students are making steady academic progress, with a higher level of agreement among magnet program teachers than magnet high schoolteachers.

Survey responses from grade 10 students in magnet high schools and magnet programs indicate students in both groups recognize that teachers expect them to do their best work in class and that students know they must do their best work. The majority report the work they do does require their best effort and they are satisfied with the academic progress they are making, although there is a higher level of agreement among magnet program students than among magnet high school students.

In response to most of the statements about academic standards and program quality the majority of parents, teachers, and students agree. However, there is a sufficient proportion of each group who disagree or are undecided, to suggest that all constituents of magnet schools do not share the same view of the academic programs the magnet schools offer. In order to improve the quality of the programs interdistrict magnet schools offer, further investigation is warranted to determine why some parents, teachers, and students view the academic programs so positively, while others do not.